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ABSTRACT

Providing guidance to Connecticut schools and districts that are developing curriculum, this book presents curriculum frameworks in 10 disciplines for thinking about the knowledge, skills, and understandings that students should have. The 10 disciplines addressed in the book are: (1) the Arts; (2) Health and Safety Education; (3) Language Arts; (4) Learning Resources and Information Technology; (5) Mathematics; (6) Physical Education; (7) Science; (8) Social Studies; (9) Technology Education; and (10) World Languages. The curriculum frameworks in the book include the following components: program goals, which describe the broad results students should achieve by the end of grade 12; K-12 content standards, which specify what students should know and be able to do by the end of grade 12; and performance standards, which specify by grade cluster how adept or competent student performance must be to signal attainment of the K-12 content standards. (RS)

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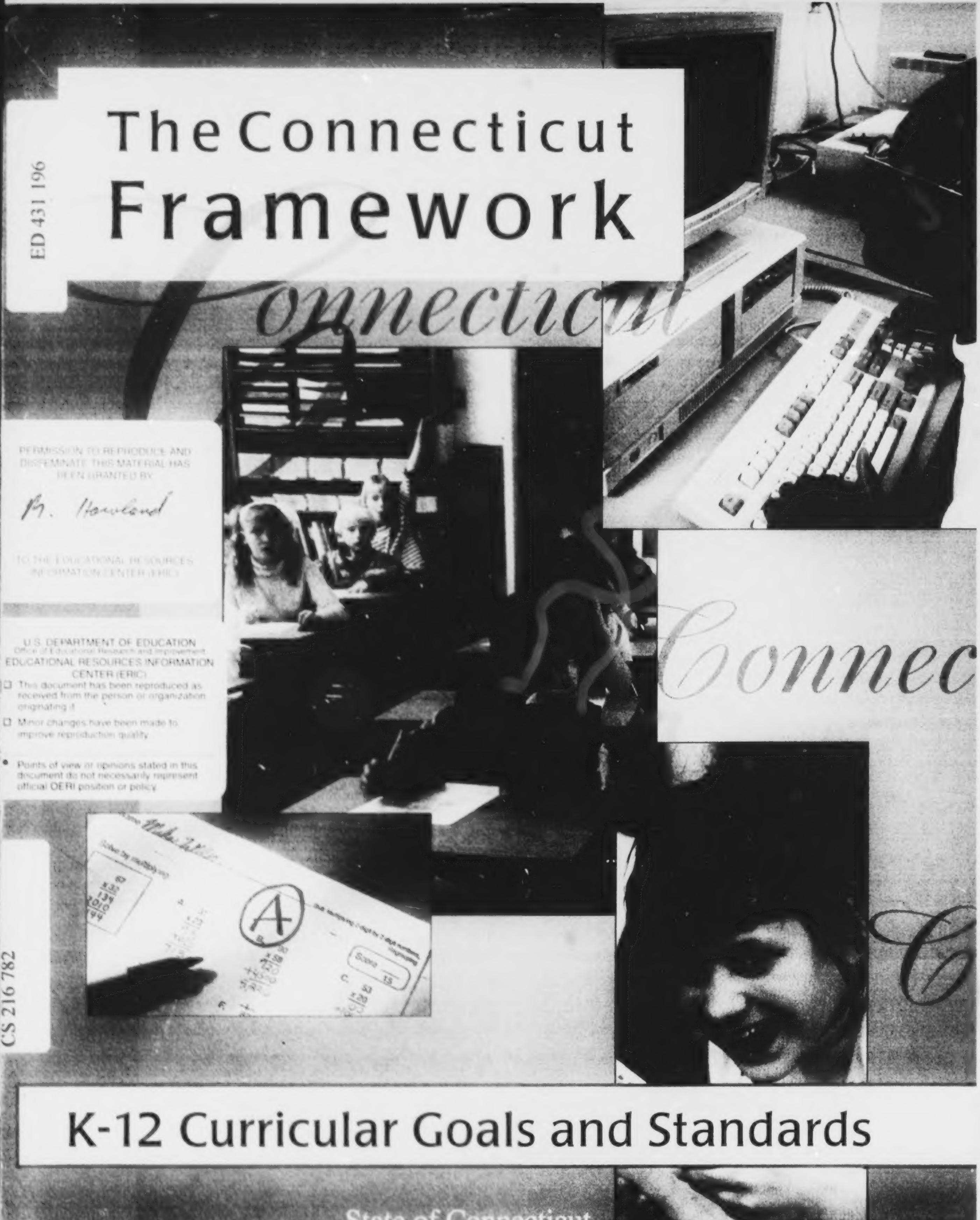
The Connecticut Framework



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K-12 Curricular Goals and Standards

State of Connecticut
Department of Education 1998

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The Connecticut Framework K-12 Curricular Goals And Standards

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INTRODUCTION

Section 10-16b of the Connecticut General Statutes prescribes courses of study that must be offered in public schools and requires the State Board of Education to create curriculum materials to assist local boards of education in developing instructional programs. In the past, the Connecticut State Department of Education produced Guides to Curriculum Development in each of the subjects prescribed in State statute.

Distribution of The Connecticut Framework: K-12 Curricular Goals and Standards initiates the release of a set of new curriculum resource materials. The Connecticut Framework, a revised Connecticut Common Core of Learning and the development of Guides to K-12 Program Development in 10 separate disciplines all are intended to assist local school districts in raising expectations, upgrading and improving curriculum and instruction, and in promoting growth in student achievement.

Connecticut's new curriculum frameworks are not a state mandate, but are intended to provide guidance to schools and districts that are developing curriculum. They are designed to provide a framework for thinking about the knowledge, skills and understandings that students should have. They are not intended to be grade-by-grade objectives that prescribe a curriculum. Local districts are responsible for developing curriculums that define what students learn and what teachers teach at specific grade levels. Local development of curriculum ensures that the interests and values of each community are reflected. State frameworks provide one basis for district conversations about what is important for students to know and be able to do.

Each curriculum framework was developed by a content advisory committee composed of educators, parents, community members and students. Content advisory committees reviewed national curriculum development efforts, curriculum frameworks from other states, and local district curriculums from Connecticut to ensure that the best thinking in each field is represented. The documents were revised by the State Department of Education for consistency across subject areas and edited for clarity. Pre-first drafts of these frameworks were distributed to attendees of the Connecticut Association of Supervision and Curriculum Development 1996 fall conference, and those reactions were incorporated by committees and resulted in the formal "first" drafts. "First" and "second" drafts then were disseminated widely for review and comment in the spring and fall of 1997, respectively.

Curriculum frameworks, which provide a vision of what is possible for students to learn and be able to do, include the following components:

- Program Goals describe the broad results students should achieve by the end of Grade 12. The results described by each program goal apply to multiple K-12 content standards.

- K-12 Content Standards specify what students should know and be able to do by the end of Grade 12. These statements define domains of content that are important for students to learn and teachers to teach.

- Performance Standards specify by grade cluster how adept or competent student performance must be to signal attainment of the K-12 content standards. Performance standards help to explain and clarify the knowledge, skills and understandings that are presented in the K-12 content standards.

Guides to K-12 Program Development will be published over the next year in 10 disciplines and will incorporate the curriculum framework of the subject area, as well as:

- illustrations of classroom activities that will help students achieve the standards;
- prototype assessments that can be used to measure student attainment of the standards;
- exemplars of student work that demonstrate attainment of the standards;
- conditions that are likely to provide students with the opportunity to achieve the standards (e.g., materials, teacher training, scheduling considerations);
- suggestions on developing local curriculum; and
- issues and challenges in implementing an instructional program based on the standards.

Connecticut's revised Common Core of Learning – to be released later this year – was developed based on the 1987 version. The revised document will incorporate the program goals and content standards verbatim that appear in each of the 10 frameworks. Together, these new curriculum resources – the Common Core, Curriculum Frameworks and Guides to K-12 Program Development – represent the state's response to the first goal in Connecticut's Comprehensive Plan for Education/1996-2000:

"to set and meet high expectations for academic achievement for all students, in order to prepare them for productive adult life, continuing education and responsible citizenship."

THE ARTS CURRICULUM FRAMEWORK

Connecticut State Department of Education
Division of Teaching and Learning
March 1998

NOTE: Portions of this framework are adapted with permission from *National Standards for Arts Education*, © 1994 by the Music Educators National Conference (MENC). The complete National Arts Standards and materials related to the standards are available from MENC, 1806 Robert Fulton Drive, Reston, VA 20191.

THE ARTS

By the end of Grade 12, students will create, perform and respond with understanding to all of the arts, including dance, music, theatre and the visual arts; develop in-depth skills in at least one art form; appreciate the importance of the arts in expressing human experience; and be prepared to apply their arts skills and understandings throughout their lifetime.

PROGRAM GOALS

As a result of education in Grades K-12, students will:

- create (imagine, experiment, plan, make, evaluate, refine and present/exhibit) art works that express concepts, ideas and feelings in each art form;
- perform (select, analyze, interpret, rehearse, evaluate, refine and present) diverse art works in each art form;
- respond (select, experience, describe, analyze, interpret and evaluate) with understanding to diverse art works and performances in each art form;
- understand and use the materials, techniques, forms (structures, styles, genres), language, notation (written symbol system) and literature/repertoire of each art form;
- understand the importance of the arts in expressing and illuminating human experiences, beliefs and values;
- identify representative works and recognize the characteristics of art, music, theatre and dance from different historical periods and cultures;
- develop sufficient mastery of at least one art form to continue lifelong involvement in that art form not only as responders (audience members), but also as creators or performers;
- develop sufficient mastery of at least one art form to be able to pursue further study, if they choose, in preparation for a career;
- seek arts experiences and participate in the artistic life of the school and community; and
- understand the connections among the arts, other disciplines and daily life.

K-12 CONTENT STANDARDS

Dance

1.	**Elements and Skills**	Students will identify and perform movement elements and dance skills.
2.	**Choreography**	Students will understand choreographic principles, processes and structures.
3.	**Meaning**	Students will understand how dance creates and communicates meaning.
4.	**Thinking Skills**	Students will apply analytical and evaluative thinking skills in dance.
5.	**History And Cultures**	Students will demonstrate an understanding of dance in various cultures and historical periods.
6.	**Healthful Living**	Students will make connections between dance and healthful living.
7.	**Connections**	Students will make connections between dance, other disciplines and daily life.

Music

1.	**Vocal**	Students will sing, alone and with others, a varied repertoire of songs.
2.	**Instrumental**	Students will play, alone and with others, a varied repertoire of instrumental music.
3.	**Improvisation**	Students will improvise melodies, variations and accompaniments.
4.	**Composition**	Students will compose and arrange music.
5.	**Notation**	Students will read and notate music.
6.	**Analysis**	Students will listen to, describe and analyze music.
7.	**Evaluation**	Students will evaluate music and music performances.

8.	**Connections**	Students will make connections between music, other disciplines and daily life.
9.	**History And Cultures**	Students will understand music in relation to history and culture.

Theatre

["Theatre" includes live improvised and scripted work as well as film, television and other electronic media.]

1.	**Creating**	Students will create theatre through improvising, writing and refining scripts.
2.	**Acting**	Students will act by developing, communicating and sustaining characters.
3.	**Technical Production**	Students will design and produce the technical elements of theatre through artistic interpretation and execution.
4.	**Directing**	Students will direct by planning or interpreting works of theatre and by organizing and conducting rehearsals.
5.	**Researching And Interpreting**	Students will research, evaluate and apply cultural and historical information to make artistic choices.
6.	**Connections**	Students will make connections between theatre, other disciplines and daily life.
7.	**Analysis, Criticism And Meaning**	Students will analyze, critique and construct meanings from works of theatre.
8.	**History And Cultures**	Students will demonstrate an understanding of context by analyzing and comparing theatre in various cultures and historical periods.

Visual Arts

1.	**Media**	Students will understand, select and apply media, techniques and processes.
2.	**Elements And Principles**	Students will understand and apply elements and organizational principles of art.
3.	**Content**	Students will consider, select and apply a range of subject matter, symbols and ideas.
4.	**History And Cultures**	Students will understand the visual arts in relation to history and cultures.
5.	**Analysis, Interpretation And Evaluation**	Students will reflect upon, describe, analyze, interpret and evaluate their own and others' work.
6.	**Connections**	Students will make connections between the visual arts, other disciplines and daily life.

DANCE

CONTENT STANDARD 1: Elements And Skills

Students will identify and perform movement elements and dance skills.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will ensure that students:

- demonstrate nonlocomotor movements (such as bend, twist, stretch, swing, sway);
- demonstrate eight basic locomotor movements (walk, run, hop, jump, leap, gallop, slide and skip), traveling forward, backward, sideward, diagonally and turning;
- demonstrate understanding of spatial concepts through, for example:
  - shape-making at low, middle and high levels;
  - defining and maintaining personal space; and
  - demonstrating movements in straight and curved pathways;
- demonstrate accuracy in moving to a musical beat and responding to changes in tempo;
- identify and demonstrate basic dynamic contrasts (slow/quick, gentle/strong);

(continued)

Educational experiences in **Grades 5-8** will ensure that students:

- demonstrate the following movement skills and explain the underlying principles: alignment, balance, initiation of movement, articulation of isolated body parts, weight shift, elevation and landing;
- identify and demonstrate longer and more complex steps and patterns;
- transfer a spatial pattern from the visual to the kinesthetic;
- transfer a rhythmic pattern from sound to movement;
- identify and demonstrate a range of dynamics/movement qualities;
- demonstrate increasing kinesthetic awareness, concentration and focus in performing a range of movement skills;
- memorize and reproduce movement sequences and dances; and

(continued)

Educational experiences in **Grades 9-12** will ensure that students:

- demonstrate appropriate skeletal alignment, body-part articulation, strength, flexibility, agility and coordination in locomotor and nonlocomotor movements with consistency and reliability;
- identify and perform basic dance steps, positions and patterns for dance from two different styles or traditions, demonstrating clarity and stylistic accuracy;
- use spatial awareness to heighten artistic expression;
- demonstrate rhythmic acuity and musicality;
- create and perform combinations and variations in a broad dynamic range;
- perform dances confidently, communicating the artistic intention of the choreographer;

(continued)

K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades K-4** will ensure that students:

- demonstrate kinesthetic awareness and concentration in performing movement skills;
- demonstrate accuracy in memorizing and reproducing simple movement phrases; and
- observe and describe the movement elements (action, space, dynamics) in a brief movement study.

Educational experiences in **Grades 5-8** will ensure that students:

- describe the movement elements observed in a dance, using appropriate movement/dance vocabulary.

Educational experiences in **Grades 9-12** will ensure that students:

- memorize and perform a varied repertoire of dances; and
- describe the characteristics of a particular choreographer's movement vocabulary.

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CONTENT STANDARD 2: Choreography

Students will understand choreographic principles, processes and structures.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will ensure that students:

- use improvisation to discover and invent movement and to solve movement problems;
- create a sequence or simple dance with a beginning, middle and end, both with and without a rhythmic accompaniment, and identify each of these sequence parts;
- create a dance phrase, repeat it, and then vary it (making changes in the time, space, and/or force/energy);
- demonstrate the ability to work effectively alone and with a partner;
- demonstrate the following partner skills: copying, leading and following, mirroring;
- improvise, create and perform simple dances based on concepts suggested by the teacher and their own feelings and ideas; and
- identify and describe the choreographic structure of their own dances in simple terms.

Educational experiences in **Grades 5-8** will ensure that students:

- use improvisation to generate movement for choreography;
- create sequences and simple dances that demonstrate the principles of, for example, repetition, contrast, transition and climax;
- demonstrate successfully the structures or forms of AB, ABA, canon, call and response, and narrative;
- demonstrate the ability to work cooperatively in pairs and small groups during the choreographic process;
- demonstrate the following partner skills: creating contrasting and complementary shapes, taking and supporting weight, balance and counterbalance; and
- describe and analyze the choreographic structure of dance viewed in class, in the theatre, or on video.

Educational experiences in **Grades 9-12** will ensure that students:

- use effectively a range of choreographic processes;
- choreograph dances which effectively demonstrate a range of choreographic principles;
- demonstrate understanding of structures or forms (such as theme and variation, rondo, round, structured improvisation and chance) through brief dance studies;
- choreograph duets and small-group dances demonstrating an understanding of choreographic principles, processes and structures both in collaborative groups and as choreographer/director;
- develop an idea independently from initial inception through to presentation for an audience; and
- describe how a choreographer manipulated and developed the basic movement content in a dance.

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CONTENT STANDARD 3: Meaning

Students will understand how dance creates and communicates meaning.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will ensure that students:	Educational experiences in **Grades 5-8** will ensure that students:	Educational experiences in **Grades 9-12** will ensure that students:
• observe and discuss how dance is different from other forms of human movement (such as sports, everyday gestures);	• effectively demonstrate the difference between pantomiming and creating abstract meaning through dance movement;	• formulate and answer questions about how movement choices communicate abstract ideas in dance;
• take an active role in a class discussion about interpretations of and reactions to dances that are either produced in class or viewed in the theatre or on video; and	• observe and explain how different accompaniment (such as sound, music, spoken text) can affect the meaning of a dance;	• examine the ways in which a dance creates and conveys meaning by considering the dance from different cultural perspectives;
• present their own dances to peers and discuss their meanings with confidence.	• demonstrate and/or explain how lighting and costuming can contribute to the meaning of a dance; and	• compare and contrast how meaning is communicated in two of their own dances; and
	• explain the meaning of one of their own dances.	• create a dance that effectively communicates a contemporary social theme or a topic of personal significance.

CONTENT STANDARD 4: Thinking Skills

Students will apply analytical and evaluative thinking skills in dance.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will ensure that students:	Educational experiences in **Grades 5-8** will ensure that students:	Educational experiences in **Grades 9-12** will ensure that students:
• explore, discover and realize multiple solutions to a given movement problem, choose their favorite solution and discuss the reasons for their choice;	• create a movement idea and demonstrate multiple interpretations, choose the most effective and discuss the reasons for their choice;	• create a dance and revise it over time, articulating the reasons for their artistic decisions and what was lost and gained by those decisions;
• observe two dances and discuss how they are similar and different in terms of one of the elements of dance (such as space) by observing body shapes, levels, pathways; and	• compare and contrast two dance compositions in terms of space (such as shape and pathways), time (such as rhythm and tempo), and force/energy (movement qualities); and	• establish a set of artistic criteria and apply it in evaluating their own work and that of others;
• demonstrate appropriate audience behavior in watching dance performances, and discuss their opinions about the dances with their peers in a supportive and constructive way.	• identify possible aesthetic criteria for evaluating dance (such as skill of performers, originality, visual and/or emotional impact, variety and contrast, clarity of idea).	• compare the work of two contrasting choreographers using a given set of artistic criteria;
		• analyze the style of a choreographer or cultural form, then create a dance study in that style and evaluate the results in discussion with peers; and
		• formulate and answer their own aesthetic questions (such as: What is it that makes a particular dance that dance? What makes a successful dance successful?).

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CONTENT STANDARD 5: History And Cultures

Students will demonstrate an understanding of dance in various cultures and historical periods.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will ensure that students:

- perform folk dances from various cultures with competence and confidence;
- perform a dance from a resource in their own community, and describe the cultural and/or historical context (how and why this dance is/was performed); and
- answer questions about dance in a particular culture and time period (for example: In colonial America, why and in what settings did people dance? What did the dances look like?).

Educational experiences in **Grades 5-8** will ensure that students:

- competently perform folk, traditional and/or classical dances from various cultures or time periods, and describe similarities and differences in steps and movement styles;
- competently perform folk, social and/or theatrical dances from a broad spectrum of 20th century America;
- learn from resources (such as people, books and videos) in their own community a folk dance of a different culture or a social dance of a different time period and the cultural/historical context of that dance, effectively sharing the dance and its context with their peers; and
- describe the role of dance in at least two different cultures or time periods.

Educational experiences in **Grades 9-12** will ensure that students:

- perform or discuss the traditions and technique of a classical dance form;
- perform and describe similarities and differences between two contemporary theatrical forms of dance or two folk dance forms;
- create a time line illustrating important dance events in the 20th century;
- analyze historical and cultural images of the body in dance and compare these to contemporary images; and
- create and answer questions about dance and dancers prior to the 20th century.

CONTENT STANDARD 6: Healthful Living

Students will make connections between dance and healthful living.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will ensure that students:

- identify at least three personal goals to improve themselves as dancers;
- describe the skeleton and how it works in simple terms; and
- explain how healthful practices (such as nutrition, safety) enhance their ability to dance, citing multiple examples.

Educational experiences in **Grades 5-8** will ensure that students:

- identify at least three personal goals to improve themselves as dancers and steps they are taking to reach those goals;
- identify major muscle groups and how they work together to produce movement;
- create their own warm-up and discuss how that warm-up prepares the body and mind for expressive purposes; and
- explain strategies to prevent dance injuries.

Educational experiences in **Grades 9-12** will ensure that students:

- reflect upon their own progress and personal growth during their study of dance;
- create and demonstrate movement sequences which stretch and strengthen the main muscle groups;
- analyze historical and cultural images of the body in dance and compare these to images of the body in contemporary media; and
- effectively communicate how lifestyle choices affect the dancer.

CONTENT STANDARD 7: Connections

Students will make connections between dance, other disciplines and daily life.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will ensure that students:	Educational experiences in **Grades 5-8** will ensure that students:	Educational experiences in **Grades 9-12** will ensure that students:
• create a dance project that reveals understanding of a concept or idea from another discipline (such as pattern in dance and science);	• cite examples of concepts used in dance and another discipline outside the arts (such as balance, shape, pattern);	• create an interdisciplinary project based on a theme identified by the student, including dance and two other disciplines;
• respond to a dance using another art form, and explain the connections between the dance and their response to it (for example, making a painting about a dance and describing the connections); and	• create a dance project that explores and expresses important ideas from another arts discipline (such as foreground and background, or color, in visual art); and	• identify commonalties and differences between dance and other disciplines with regard to fundamental concepts such as materials, elements and ways of communicating meaning; and
• video record a simple dance (after collaborative planning in small groups) which successfully shows the concept or idea that drives the dance.	• video record a dance produced in class, intensifying or changing the meaning of the dance through the recording process.	• create an interdisciplinary project using media technologies (such as video, computer) that presents dance in a new or enhanced form (such as video dance, video/computer-aided live performance, or animation).

MUSIC

CONTENT STANDARD 1: Vocal

Students will sing, alone and with others, a varied repertoire of songs.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will ensure that students:

- sing independently, on pitch and in rhythm, with appropriate timbre, diction and posture, and maintain a steady tempo;
- sing expressively, with appropriate dynamics, phrasing and interpretation;
- sing from memory a varied repertoire of songs representing genres and styles from diverse cultures;
- sing ostinatos, partner songs and rounds; and
- sing in groups, blending vocal timbres, matching dynamic levels, and responding to the cues of a conductor.

Educational experiences in **Grades 5-8** will ensure that students:

- sing accurately and with good breath control throughout their singing ranges, alone and in small and large ensembles;
- sing with expression and technical accuracy a repertoire of vocal literature with a difficulty level of 2, on a scale of 1 to 6, including some songs performed from memory;
- sing music representing diverse genres and cultures, with expression appropriate for the work being performed; and
- sing music written in two and three parts.
- *Students who participate in a choral ensemble or class will, in addition,* sing with expression and technical accuracy a varied repertoire of vocal literature with a difficulty level of 3, on a scale of 1 to 6, including some songs performed from memory.

Educational experiences in **Grades 9-12** will ensure that students:

- sing with expression and technical accuracy a large and varied repertoire of vocal literature with a difficulty level of 4, on a scale of 1 to 6, including some songs performed from memory;
- sing ensemble music for up to four parts, with and without accompaniment; and
- demonstrate well-developed ensemble skills.

CONTENT STANDARD 2: Instrumental

Students will play, alone and with others, a varied repertoire of instrumental music.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will ensure that students:

- perform on pitch, in rhythm, with appropriate dynamics and timbre, and maintain a steady tempo;
- perform easy rhythmic, melodic and chordal patterns accurately and independently on rhythmic, melodic and harmonic classroom instruments;
- perform expressively a varied repertoire of music representing diverse genres and styles;
- echo short rhythms and melodic patterns;
- perform in groups, blending instrumental timbres, matching dynamic levels, and responding to the cues of a conductor; and
- perform independent instrumental parts while other students sing or play contrasting parts.

Educational experiences in **Grades 5-8** will ensure that students:

- perform on at least one instrument accurately and independently, alone and in small and large ensembles, with good posture, good playing position and good breath, bow or stick control;
- perform with expression and technical accuracy on at least one string, wind, percussion or classroom instrument a repertoire of instrumental literature with a difficulty level of 2, on a scale of 1 to 6;
- perform music representing diverse genres and cultures, with expression appropriate for the work being performed; and
- play by ear simple melodies on a melodic instrument and simple accompaniments on a harmonic instrument.

Educational experiences in **Grades 9-12** will ensure that students:

- perform with expression and technical accuracy a large and varied repertoire of instrumental literature with a difficulty level of 4, on a scale of 1 to 6;
- perform an appropriate part in an ensemble, demonstrating well-developed ensemble skills; and
- perform in small ensembles with one student on a part.

(continued)

K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades 5-8** will ensure that students:

- *Students who participate in an instrumental ensemble or class will, in addition,* perform with expression and technical accuracy a varied repertoire of instrumental literature with a difficulty level of 3, on a scale of 1 to 6, including some solos performed from memory.

CONTENT STANDARD 3: Improvisation

Students will improvise melodies, variations and accompaniments.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will ensure that students:	Educational experiences in **Grades 5-8** will ensure that students:	Educational experiences in **Grades 9-12** will ensure that students:
• improvise "answers" in the same style to given rhythmic and melodic phrases; • improvise simple rhythmic and melodic ostinato accompaniments; • improvise simple rhythmic variations and simple melodic embellishments on familiar melodies; and • improvise short songs and instrumental pieces, using a variety of sound sources, including traditional sounds, nontraditional sounds available in the classroom, body sounds, and sounds produced by electronic means.	• improvise simple harmonic accompaniments; • improvise melodic embellishments and simple rhythmic and melodic variations on given pentatonic melodies and melodies in major keys; and • improvise short melodies, unaccompanied and over given rhythmic accompaniments, each in a consistent style, meter and tonality.	• improvise stylistically appropriate harmonizing parts; • improvise rhythmic and melodic variations on given pentatonic melodies and melodies in major and minor keys; and • improvise original melodies over given chord progressions, each in a consistent style, meter and tonality.

CONTENT STANDARD 4: Composition

Students will compose and arrange music.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will ensure that students:

- create and arrange music to accompany readings or dramatizations;
- create and arrange short songs and instrumental pieces within specified guidelines; and
- use a variety of sound sources when composing.

Educational experiences in **Grades 5-8** will ensure that students:

- compose short pieces within specified guidelines, demonstrating how the elements of music are used to achieve unity and variety, tension and release, and balance;
- arrange simple pieces for voices or instruments other than those for which the pieces were written; and
- use a variety of traditional and nontraditional sound sources and electronic media when composing and arranging.

Educational experiences in **Grades 9-12** will ensure that students:

- compose music in several distinct styles, demonstrating creativity in using the elements of music for expressive effect;
- arrange pieces for voices or instruments other than those for which the pieces were written in ways that preserve or enhance the expressive effect of the music; and
- compose and arrange music for voices and various acoustic and electronic instruments, demonstrating knowledge of the ranges and traditional use of the sound sources.

CONTENT STANDARD 5: Notation

Students will read and notate music.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will ensure that students:

- read whole, half, dotted half, quarter and eighth notes and rests in 2/4, 3/4, and 4/4 meter signatures;
- use a system (that is, syllables, numbers or letters) to read simple pitch notation in the treble clef in major keys;
- identify symbols and traditional terms referring to dynamics, tempo and articulation and interpret them correctly when performing; and
- use standard symbols to notate meter, rhythm, pitch and dynamics in simple patterns presented by the teacher.

Educational experiences in **Grades 5-8** will ensure that students:

- read whole, half, quarter, eighth, sixteenth and dotted notes and rests in 2/4, 3/4, 4/4, 6/8, 3/8, and alla breve meter signatures;
- read at sight simple melodies in both the treble and bass clefs;
- identify and define standard notation symbols for pitch, rhythm, dynamics, tempo, articulation and expression; and
- use standard notation to record their musical ideas and the musical ideas of others.
- *Students who participate in a performing ensemble or class will, in addition,* sight-read, accurately and expressively, music with a level of difficulty of 2, on a scale of 1 to 6.

Educational experiences in **Grades 9-12** will ensure that students:

- demonstrate the ability to read an instrumental or vocal score of up to four staves by describing how the elements of music are used; and
- sight-read, accurately and expressively, music with a difficulty level of 3, on a scale of 1 to 6.

CONTENT STANDARD 6: Analysis

Students will listen to, describe and analyze music.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will ensure that students:

- identify simple music forms when presented;
- demonstrate perceptual skills by moving in response to, by answering questions about, and by describing aural examples of music of various styles representing diverse cultures;
- use appropriate terminology in explaining music, music notation, music instruments and voices, and music performances;
- identify the sounds of a variety of instruments, including many orchestra and band instruments, and instruments from various cultures, as well as children's voices and male and female adult voices; and
- respond through purposeful movement to selected prominent music characteristics or to specific music events while listening to music.

Educational experiences in **Grades 5-8** will ensure that students:

- describe specific music events in a given aural example, using appropriate terminology;
- analyze the uses of elements of music in aural examples representing diverse genres and cultures; and
- demonstrate knowledge of the basic principles of meter, rhythm, tonality, intervals, chords and harmonic progressions in their analyses of music.

Educational experiences in **Grades 9-12** will ensure that students:

- analyze aural examples of a varied repertoire of music representing diverse genres and cultures by describing the uses of music elements and expressive devices;
- demonstrate extensive knowledge of the technical vocabulary of music; and
- identify and explain compositional devices and techniques used to provide unity and variety and tension and release in a musical work, and give examples of other works that make similar uses of these devices and techniques.

CONTENT STANDARD 7: Evaluation

Students will evaluate music and music performances.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will ensure that students:	Educational experiences in **Grades 5-8** will ensure that students:	Educational experiences in **Grades 9-12** will ensure that students:
• devise criteria for evaluating performances and compositions; and	• develop criteria for evaluating the quality and effectiveness of music performances and compositions and apply the criteria in their personal listening and performing; and	• evolve specific criteria for making informed, critical evaluations of the quality and effectiveness of performances, compositions, arrangements and improvisations and apply the criteria in their personal participation in music; and
• explain, using appropriate music terminology, their personal preferences for specific musical works and styles.	• evaluate the quality and effectiveness of their own and others' performances, compositions, arrangements and improvisations by applying specific criteria appropriate for the style of the music, and offer constructive suggestions for improvement.	• evaluate a performance, composition, arrangement or improvisation by comparing it to similar or exemplary models.

CONTENT STANDARD 8: Connections

Students will make connections between music, other disciplines and daily life.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will ensure that students:

- identify similarities and differences in the meanings of common terms used in the various arts; and
- identify ways in which the principles and subject matter of music and other disciplines taught in the school are interrelated.

Educational experiences in **Grades 5-8** will ensure that students:

- compare in two or more arts how the characteristic materials of each art (sound in music, visual stimuli in visual arts, movement in dance, human relationships in theatre) can be used to transform similar events, scenes, emotions or ideas into works of art;
- describe ways in which the principles and subject matter of music and other disciplines taught in the school are interrelated; and
- identify a variety of music-related careers.

Educational experiences in **Grades 9-12** will ensure that students:

- explain how elements, artistic processes and organizational principles are used in similar and distinctive ways in the various arts, and cite examples;
- compare characteristics of two or more arts within a particular historical period or style and cite examples from various cultures;
- explain ways in which the principles and subject matter of music and various disciplines outside the arts are interrelated; and
- apply music skills and understandings to solve problems relevant to a variety of careers.

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CONTENT STANDARD 9: History and Cultures

Students will understand music in relation to history and culture.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will ensure that students:	Educational experiences in **Grades 5-8** will ensure that students:	Educational experiences in **Grades 9-12** will ensure that students:
• identify by genre or style aural examples of music from various historical periods and cultures; • describe in simple terms how elements of music are used in music examples from various cultures of the world; • identify various uses of music in their daily experiences and describe characteristics that make certain music suitable for each use; • identify and describe roles of musicians in various music settings and cultures; and • demonstrate audience behavior appropriate for the context and style of music performed.	• describe distinguishing characteristics of representative music genres and styles from a variety of cultures; • classify by genre and style (and, if applicable, by historical period, composer and title) a varied body of exemplary (that is, high-quality and characteristic) musical works, and explain the characteristics that cause each work to be considered exemplary; and • compare, in several cultures of the world, the functions music serves, roles of musicians, and conditions under which music is typically performed.	• classify by genre or style and by historical period or culture unfamiliar but representative aural examples of music, and explain the reasoning behind their classifications; • identify sources of American music genres, trace the evolution of those genres, and cite well-known musicians associated with them; and • identify various roles musicians perform, cite representative individuals who have functioned in each role, and describe their activities and performances.

THEATRE

CONTENT STANDARD 1: Creating

Students will create theatre through improvising, writing and refining scripts.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will ensure that students:	Educational experiences in **Grades 5-8** will ensure that students:	Educational experiences in **Grades 9-12** will ensure that students:
• collaborate to select interrelated characters, environments and situations for classroom dramatizations; and	• individually and in groups, develop characters, environments and actions that create tension and suspense; and	• construct imaginative scripts and collaborate with actors to refine scripts so that story and meaning are conveyed to an audience.
• improvise dialogue to tell stories, and formalize improvisations by writing or recording the dialogue.	• refine and record dialogue and action.	

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CONTENT STANDARD 2: Acting

Students will act by developing, communicating and sustaining characters.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will ensure that students:	Educational experiences in **Grades 5-8** will ensure that students:	Educational experiences in **Grades 9-12** will ensure that students:
• imagine and clearly describe characters, their relationships and their environments; • use variations of locomotor and nonlocomotor movement and vocal pitch, tempo and tone for different characters; and • assume roles (based on personal experience and heritage, imagination, literature and history) in classroom dramatizations.	• analyze dramatic text to discover, articulate and justify character motivation; • invent character behaviors based on the observation of interactions, ethical choices and emotional responses of people; • use acting skills (such as sensory recall, concentration, breath control, diction, body alignment, control of isolated body parts) to develop characterizations that reflect artistic choices; and • in an ensemble, interact as the invented characters.	• analyze the physical, emotional and social dimensions of characters found in dramatic texts from various genres and media; • compare and demonstrate acting techniques and methods from a variety of periods and styles; and • in an ensemble, create and sustain characters.

CONTENT STANDARD 3: Technical Production

Students will design and produce the technical elements of theatre through artistic interpretation and execution.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will ensure that students:

- design the playing space to communicate characters and action in specific locales; and
- collaborate to select and safely organize available materials that suggest scenery, properties, lighting, sound, costumes and makeup.

Educational experiences in **Grades 5-8** will ensure that students:

- describe and use the relationship among scenery, properties, lighting, sound, costumes and makeup in creating an environment appropriate for the drama;
- analyze improvised and scripted scenes for technical requirements;
- develop the environment using visual elements (line, texture, color, space), visual principles (repetition, balance, emphasis, contrast, unity) and aural qualities (pitch, rhythm, dynamics, tempo, expression) from traditional and nontraditional sources; and
- work collaboratively and safely to select and create elements of scenery, properties, lighting and sound to signify environments, and costumes and makeup to suggest character.

Educational experiences in **Grades 9-12** will ensure that students:

- explain the physical and chemical properties of the technical aspects of theatre, such as light, color, electricity, paint and makeup;
- analyze a variety of dramatic texts from cultural and historical perspectives to determine production requirements;
- develop designs that use visual and aural elements to convey environments that clearly support the text;
- apply technical skills and understandings, including scientific and technological advances, to collaboratively and safely create functional scenery, properties, lighting, sound, costumes and makeup; and
- design coherent stage management, promotional and business practices.

CONTENT STANDARD 4: Directing

Students will direct by planning or interpreting works of theatre and by organizing and conducting rehearsals.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will ensure that students:	Educational experiences in **Grades 5-8** will ensure that students:	Educational experiences in **Grades 9-12** will ensure that students:
• collaboratively plan and prepare improvisations and demonstrate various ways of staging classroom dramatizations.	• demonstrate social, group and consensus skills by leading small groups in planning visual and aural elements and in rehearsing improvised and scripted scenes.	• develop multiple interpretations and visual and aural production choices for scripts and production ideas and choose those that are most appropriate; • justify selection of text, interpretation and visual/aural choices; and • effectively communicate directorial choices to a small ensemble for improvised or scripted scenes.

CONTENT STANDARD 5: Researching and Interpreting

Students will research, evaluate and apply cultural and historical information to make artistic choices.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will ensure that students:	Educational experiences in **Grades 5-8** will ensure that students:	Educational experiences in **Grades 9-12** will ensure that students:
• communicate information to peers about people, events, time and place related to classroom dramatizations.	• apply research from print and nonprint sources to script writing, acting, design and directing choices.	• identify and research cultural, historical and symbolic clues in dramatic texts, and evaluate the validity and practicality of the information to help make artistic choices for informal and formal productions.

CONTENT STANDARD 6: Connections

Students will make connections between theatre, other disciplines and daily life.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will ensure that students:

- describe visual, aural, oral and kinetic elements in theatre, dance, music and visual arts;
- compare how ideas and emotions are expressed in theatre, dance, music and visual arts;
- select movement, music or visual elements to enhance the mood of a classroom dramatization;
- identify connections between theatre and other disciplines in the curriculum; and
- identify various careers available to theatre artists.

Educational experiences in **Grades 5-8** will ensure that students:

- describe characteristics and compare the presentation of characters, environments and actions in theatre, dance and visual arts;
- incorporate elements of dance, music and visual arts to express ideas and emotions in improvised and scripted scenes;
- express and compare personal reactions to several art forms;
- describe and compare the functions and interaction of performing artists, visual artists and audience members in theatre, dance, music and visual arts;
- describe ways in which the principles and subject matter of theater and other arts disciplines taught in school are interrelated;

(continued)

Educational experiences in **Grades 9-12** will ensure that students:

- describe and compare the materials, elements and means of communicating in theatre, dance, music and the visual arts;
- determine how the nondramatic art forms are modified to enhance the expression of ideas and emotions in theatre;
- illustrate the integration of arts media in informal or formal presentations;
- create and solve interdisciplinary problems using theatre; and
- explore career opportunities in theatre and theatre-related fields.

K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades 5-8** will ensure that students:

- explain how social concepts such as cooperation, communication, collaboration, consensus, self-esteem, risk taking, sympathy and empathy apply in theatre and daily life; and
- explain the knowledge, skills and discipline needed to pursue careers and avocational opportunities in theatre.

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CONTENT STANDARD 7: Analysis, Criticism and Meaning

Students will analyze, critique and construct meanings from works of theatre.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will ensure that students:

- identify and describe the visual, aural, oral and kinetic elements of classroom dramatizations and dramatic performances;
- explain how the wants and needs of characters are similar to and different from their own;
- articulate emotional responses to and explain personal preferences about whole dramatic performances as well as parts of those performances; and
- analyze classroom dramatizations and, using appropriate terminology, constructively suggest (1) alternative ideas for dramatizing roles, arranging environments and developing situations and (2) means of improving the collaborative processes of planning, playing, responding and evaluating.

Educational experiences in **Grades 5-8** will ensure that students:

- describe and analyze the effect of publicity, study guides, programs and physical environments on audience response and appreciation of dramatic performances;
- articulate and support the meanings constructed from dramatic performances;
- use articulated criteria to describe, analyze and constructively evaluate the effectiveness of artistic choices in dramatic performances; and
- describe and evaluate the effectiveness of students' contributions (as playwrights, actors, designers and directors) to the collaborative process of developing improvised and scripted scenes.

Educational experiences in **Grades 9-12** will ensure that students:

- construct social meanings from informal and formal productions from a variety of cultures and historical periods, and relate these to current personal, national and international issues;
- articulate and justify personal aesthetic criteria for critiquing dramatic texts and events by comparing artistic intent with the final performance;
- analyze and critique performances and constructively suggest alternative artistic choices; and
- constructively evaluate their own and others' collaborative efforts in informal and formal productions.

CONTENT STANDARD 8: History and Cultures

Students will demonstrate an understanding of context by analyzing and comparing theatre in various cultures and historical periods.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will ensure that students:

- identify and compare similar characters and situations in stories and dramas from and about various cultures, create classroom dramatizations based on these stories and dramas, and discuss how theatre reflects life; and
- identify and compare the various cultural settings and reasons for creating dramas and attending theatre.

Educational experiences in **Grades 5-8** will ensure that students:

- describe and compare universal characters and situations in dramas from and about various cultures and historical periods, create improvised and scripted scenes based on these universal characters and situations, and discuss how theatre reflects a culture;
- analyze the emotional and social impact of dramatic events in their lives, in the community and in other cultures; and
- explain how culture affects the content and design elements of dramatic performances.

Educational experiences in **Grades 9-12** will ensure that students:

- compare similar themes in drama from various cultures and historical periods, create informal and formal performances using these themes, and discuss how theatre can reveal universal concepts;
- identify and compare the lives, works and influence of representative theatre artists in various cultures and historical periods;
- identify cultural and historical sources of American theatre and musical theatre; and
- analyze the effect of their own cultural experiences on their dramatic work.

VISUAL ARTS

CONTENT STANDARD 1: Media

Students will understand, select and apply media, techniques and processes.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will ensure that students:

- differentiate between a variety of media, techniques and processes;
- describe how different media, techniques and processes cause different effects and personal responses;
- use different media, techniques and processes to communicate ideas, feelings, experiences and stories; and
- use art media and tools in a safe and responsible manner.

Educational experiences in **Grades 5-8** will ensure that students:

- select media, techniques and processes to communicate ideas, reflect on their choices and analyze what makes them effective;
- improve the communication of their own ideas by effectively using the characteristics of a variety of traditional and contemporary art media, techniques and processes (two-dimensional and three-dimensional, including media/technology); and
- use different media, techniques and processes (two-dimensional and three-dimensional, including media/technology) to communicate ideas, feelings, experiences and stories.

Educational experiences in **Grades 9-12** will ensure that students:

- apply media, techniques and processes with sufficient skill, confidence and sensitivity that their intentions are understood;
- conceive and create original works of art that demonstrate a connection between personal expression and the intentional use of art materials, techniques and processes; and
- communicate ideas consistently at a high level of effectiveness in at least one visual arts medium.

CONTENT STANDARD 2: Elements and Principles

Students will understand and apply elements and organizational principles of art.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will ensure that students:	Educational experiences in **Grades 5-8** will ensure that students:	Educational experiences in **Grades 9-12** will ensure that students:
• identify the different ways visual characteristics are used to convey ideas;	• use ways of arranging visual characteristics and reflect upon what makes them effective in conveying ideas;	• judge the effectiveness of different ways of using visual characteristics in conveying ideas; and
• describe how different expressive features, and ways of organizing them, cause different responses; and	• recognize and reflect on the effects of arranging visual characteristics in their own and others' work; and	• apply comprehension and skill in incorporating the elements of art and principles of design to generate multiple solutions to and effectively solve a variety of visual art problems.
• use the elements of art and principles of design to communicate ideas.	• select and use the elements of art and principles of design to improve communication of their ideas.	

CONTENT STANDARD 3: Content

Students will consider, select and apply a range of subject matter, symbols and ideas.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will ensure that students:	Educational experiences in **Grades 5-8** will ensure that students:	Educational experiences in **Grades 9-12** will ensure that students:
• discuss a variety of sources for art content; and • select and use subject matter, symbols and ideas to communicate meaning.	• consider, select from and apply a variety of sources for art content in order to communicate intended meaning; and • consider and compare the sources for subject matter, symbols and ideas in their own and others' work.	• use, record and develop ideas for content over time; and • use subject matter, symbols, ideas and themes that demonstrate knowledge of contexts, and cultural and aesthetic values to communicate intended meaning.

CONTENT STANDARD 4: History And Cultures

Students will understand the visual arts in relation to history and cultures.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will ensure that students:	Educational experiences in **Grades 5-8** will ensure that students:	Educational experiences in **Grades 9-12** will ensure that students:
• recognize that the visual arts have a history and a variety of cultural purposes and meanings; • identify specific works of art as belonging to particular styles, cultures, times and places; and • create art work that demonstrates understanding of how history or culture can influence visual art.	• know and compare the characteristics and purposes of works of art representing various cultures, historical periods and artists; • describe and place a variety of specific significant art objects by artist, style and historical and cultural context; and • analyze, describe and demonstrate how factors of time and place (such as climate, natural resources, ideas and technology) influence visual characteristics that give meaning and value to a work of art.	• analyze and interpret art works in terms of form, cultural and historical context, and purpose; • analyze common characteristics of visual arts evident across time and among cultural/ethnic groups in order to formulate analyses, evaluations and interpretations of meaning; and • compare works of art to one another in terms of history, aesthetics and culture; justify conclusions made and use these conclusions to inform their own art making.

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CONTENT STANDARD 5: **Analysis, Interpretation and Evaluation**

Students will reflect upon, describe, analyze, interpret and evaluate their own and others' work.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will ensure that students:

- identify various purposes for creating works of art;
- describe visual characteristics of works of art using visual art terminology;
- recognize that there are different responses to specific works of art;
- describe their personal responses to specific works of art using visual art terminology; and
- identify possible improvements in the process of creating their own work.

Educational experiences in **Grades 5-8** will ensure that students:

- compare and contrast purposes for creating works of art;
- describe and analyze visual characteristics of works of art using visual art terminology;
- compare a variety of individual responses to, and interpretations of, their own works of art and those from various eras and cultures;
- describe their own responses to, and interpretations of, specific works of art;
- reflect on and evaluate the quality and effectiveness of their own and others' work using specific criteria (e.g., technìque, formal and expressive qualities, content); and
- describe/analyze their own artistic growth over time in relation to specific criteria.

Educational experiences in **Grades 9-12** will ensure that students:

- research and analyze historic meaning and purpose in varied works of art;
- reflect critically on various interpretations to better understand specific works of art;
- defend personal interpretations using reasoned argument; and
- apply critical and aesthetic criteria (e.g., technique, formal and expressive qualities, content) in order to improve their own works of art.

CONTENT STANDARD 6: Connections

Students will make connections between the visual arts, other disciplines and daily life.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will ensure that students:

- identify connections between characteristics of the visual arts and other arts disciplines;
- identify connections between the visual arts and other disciplines in the curriculum;
- describe how the visual arts are combined with other arts in multimedia work;
- demonstrate understanding of how the visual arts are used in the world around us; and
- recognize that works of visual art are produced by artisans and artists working in different cultures, times and places.

Educational experiences in **Grades 5-8** will ensure that students:

- compare the characteristics of works in the visual arts and other art forms that share similar subject matter, themes, purposes, historical periods or cultural context;
- describe ways in which the principles and subject matter of the visual arts and other disciplines taught in school are interrelated;
- combine the visual arts with another art form to create coherent multimedia work;
- apply visual arts knowledge and skills to solve problems common in daily life; and
- identify various careers that are available to artists.

Educational experiences in **Grades 9-12** will ensure that students:

- analyze and compare characteristics of the visual arts within a particular historical period or style with ideas, issues or themes of that period or style;
- compare the creative processes used in the visual arts with the creative processes used in the other arts and non-arts disciplines;
- create and solve interdisciplinary problems using multimedia; and
- apply visual arts skills and understandings to solve problems relevant to a variety of careers.

HEALTH AND SAFETY EDUCATION CURRICULUM FRAMEWORK

Connecticut State Department of Education
Division of Teaching and Learning
June 1998

HEALTH AND SAFETY EDUCATION

By the end of Grade 12, students will have developed and maintained behaviors that promote lifelong health.

PROGRAM GOALS

As a result of education in Grades K-12, students will:

- recognize and practice health-enhancing lifestyles;
- use core information to analyze and evaluate health and safety issues, information and resources in order to become healthy, responsible citizens;
- strengthen communication skills and promote peaceful resolution of conflicts by appreciating and respecting others; and
- make decisions, set goals and learn to say "no," when appropriate, in order to implement and sustain a healthy life.

K-12 CONTENT STANDARDS

1. Healthy And Active Life	Students will establish and maintain healthy eating patterns and a physically active life.
2. Injury And Disease Prevention	Students will avoid risk-taking activities that cause intentional and unintentional injuries or diseases. Students will demonstrate basic first aid and safety techniques.
3. Human Growth And Development	Students will learn accurate information about their physical development, including human sexuality and mental and emotional health. Students will avoid behaviors that result in pregnancy and sexually transmitted diseases.
	It is the responsibility of the local school district to allow parents and guardians to exercise their right to exempt their children from instruction in human sexuality. Local school districts are responsible to develop curriculum that is presented in an age-appropriate manner.
4. Substance Abuse Prevention	Students will establish and maintain lifestyles that are free of tobacco, alcohol and other nonmedicinal drugs.

CONTENT STANDARD 1: Healthy and Active Life

Students will establish and maintain healthy eating patterns and a physically active life.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:	Educational experiences in **Grades 5-8** will assure that students:	Educational experiences in **Grades 9-12** will assure that students:
• plan, select and prepare a nutritious meal based on the U.S. dietary guidelines;	• plan, select and prepare a nutritious daily diet based on the U.S. dietary guidelines;	• develop a wellness plan which will balance nutritional intake, physical output and need for rest on a daily basis;
• select foods that are low in salt, sugar and fat; and	• develop a plan to maintain one's own healthy, appropriate weight based on a physician's recommendation and on U.S. dietary guidelines;	• identify and discuss the impact of food selections in causing or contributing to specific diseases and health conditions; and
	• identify temporary and long-term health problems associated with poor food choices and eating habits;	• identify specific nutritional needs of athletes, women, men, the elderly and people with food allergies and medical concerns.
	• demonstrate the influence the media, emotions, culture and individual family customs have on food selection; and	
• engage in daily physical activity.	• develop a plan for and engage in appropriate daily physical activity.	

CONTENT STANDARD 2: Injury and Disease Prevention

Students will avoid risk-taking activities that cause intentional and unintentional injuries or diseases. Students will demonstrate basic first aid and safety techniques.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:	Educational experiences in **Grades 5-8** will assure that students:	Educational experiences in **Grades 9-12** will assure that students:
• know and demonstrate ways to stay safe at home and school, and in the community and play areas;	• develop an action plan that will minimize personal risks and injuries at school, at home, in a vehicle and in the community;	• demonstrate skills to avoid, cope with or resolve risky and unsafe situations;
• identify resources in the home, school and community to get help if needed;	• demonstrate skills necessary to avoid dangerous situations;	• demonstrate strategies to stay physically and emotionally safe;
• demonstrate simple emergency procedures;	• demonstrate basic first aid and CPR techniques;	• demonstrate emergency procedures, including basic first aid and CPR techniques;
• define the terms *communicable* (infectious), and *noncommunicable* (noninfectious) disease and identify ways to help prevent disease;	• identify the causes, symptoms and prevention methods of communicable and noncommunicable diseases;	• discuss factors that increase the risk of developing communicable and noncommunicable diseases;
• identify skills necessary to resolve conflicts peacefully;	• demonstrate skills necessary to resolve conflicts peacefully;	• use negotiation and conflict resolution skills;
(continued)	**(continued)**	**(continued)**

K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades K-4** will assure that students:	Educational experiences in **Grades 5-8** will assure that students:	Educational experiences in **Grades 9-12** will assure that students:
• differentiate between appropriate and inappropriate touch, say "no" to inappropriate touch, and tell a trusted adult;	• identify and use ways to reduce and/or avoid threatening situations, including sexual harassment, abuse and assault;	• identify and use ways to reduce and/or avoid threatening situations, including sexual harassment, abuse and assault;
• know that it is appropriate to tell a trusted adult when peers behave in ways that may be harmful to themselves or others; and	• identify the warning signs for suicide and how to get help when needed; and	• identify strategies to prevent suicide and know how to get help for someone who may potentially be suicidal; and
• use a variety of strategies to demonstrate respect for and responsibility to others without bias, abuse, discrimination or harassment, including but not limited to race, color, sex, religion, national origin and sexual orientation.	• use a variety of strategies to demonstrate respect for and responsibility to others without bias, abuse, discrimination or harassment, including but not limited to race, color, sex, religion, national origin and sexual orientation.	• use a variety of strategies to demonstrate respect for and responsibility to others without bias, abuse, discrimination or harassment, including but not limited to race, color, sex, religion, national origin and sexual orientation.

CONTENT STANDARD 3: Human Growth and Development

Students will learn accurate information about their physical development, including human sexuality and mental and emotional health. Students will avoid behaviors that result in pregnancy and sexually transmitted diseases.

It is the responsibility of the local school district to allow parents and guardians to exercise their right to exempt their children from instruction in human sexuality. Local school districts are responsible to develop curriculum that is presented in an age-appropriate manner.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:	Educational experiences in **Grades 5-8** will assure that students:	Educational experiences in **Grades 9-12** will assure that students:
• demonstrate ways of communicating care, concern and consideration to oneself and others in a respectful manner;	• demonstrate and practice ways of communicating care, concern and consideration to oneself and others in a respectful manner;	• practice responsible behaviors associated with mature, young adult interaction;
• demonstrate ways to obtain information about human growth and development from family, clergy, health professionals and other responsible adults;	• demonstrate ways to obtain information about human growth, development and sexuality from family, clergy, health professionals and other responsible adults;	• identify community resources for physical, mental and emotional health;
• name the major body parts and identify how one can maintain and protect the body's systems;		
• identify the physical development of the male and female anatomy;	• identify the structure and function of the male and female anatomy, and understand puberty and human reproduction;	• describe and analyze the physical, mental, emotional and sexual changes that occur over a lifetime – from birth to death;
• describe, in Grade 4 or 5, physical and emotional changes that occur during puberty; and		
(continued)	**(continued)**	**(continued)**

CONTENT STANDARD 3: Human Growth and Development

K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades K-4** will assure that students:	Educational experiences in **Grades 5-8** will assure that students:	Educational experiences in **Grades 9-12** will assure that students:
	• define abstinence and explain the value of postponing sexual activity;	• understand the value of abstinence and explain the value of postponing sexual activity;
• recognize that individuals can make choices that reduce or eliminate their risk of contracting infectious disease.	• know the skills necessary to prevent pregnancy, HIV and sexually transmitted diseases (STDs);	• identify the methods of contraception and the effectiveness of each and use the skills necessary to prevent pregnancy, HIV and STDs;
	• identify the responsibilities associated with parenthood; and	• apply the decision-making process, individually and collaboratively, to address health issues; and
	• identify and explain how the media may influence behaviors and decisions.	• analyze how the media may influence behaviors and decisions.

CONTENT STANDARD 4: Substance Abuse Prevention

Students will establish and maintain lifestyles that are free of tobacco, alcohol and other nonmedicinal drugs.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:	Educational experiences in **Grades 5-8** will assure that students:	Educational experiences in **Grades 9-12** will assure that students:
• articulate the dangers of using alcohol, tobacco and other drugs (ATOD) and identify and use strategies to avoid ATOD;	• identify and use strategies and skills to remain free of alcohol, tobacco, drugs and other addictive behaviors;	• use strategies and skills to remain free of alcohol, tobacco, drugs and other addictive behaviors, such as gambling;
• identify different ways to express emotions in a healthy manner; and	• demonstrate healthy ways to express emotions, have fun, manage stress and maintain ATOD-free friendships;	• demonstrate skills necessary to manage emotions, cope with stress, seek help for oneself and others, and locate intervention resources;
• identify and follow family and school rules and state and federal laws concerning ATOD use.	• identify and follow family and school rules and state and federal laws concerning ATOD use;	• identify and follow family and school rules and state and federal laws concerning ATOD use; and
	• examine the manner in which peers, culture and the media may influence ATOD use; and	• analyze behaviors that may put one at risk of using ATOD now or in the future.
	• analyze the impact that the use of substances has on decisions, injuries and crimes committed within society.	

LANGUAGE ARTS
CURRICULUM
FRAMEWORK

Connecticut State Department of Education
Division of Teaching and Learning
March 1998

LANGUAGE ARTS

By the end of Grade 12, students will develop proficiency, confidence and fluency in reading, writing, listening, speaking and viewing to meet the literacy demands of the 21st century.

PROGRAM GOALS

As a result of education in Grades K-12, students will:

- read, write, speak, listen and view to construct meaning of written, visual and oral texts;
- read with understanding and respond thoughtfully to a variety of texts;
- write and speak English proficiently to communicate ideas clearly;
- create works using the language arts in visual, oral and written texts;
- choose and apply strategies that enhance the fluent and proficient use of language arts;
- understand and appreciate texts from many literary periods and cultures; and
- employ the language arts for lifelong learning, work and enjoyment.

K-12 CONTENT STANDARDS

1. Reading and Responding	Students will read and respond in individual, literal, critical and evaluative ways to literary, informational and persuasive texts.
2. Producing Texts	Students will produce written, oral and visual texts to express, develop and substantiate ideas and experiences.
3. Applying English Language Conventions	Students will apply the conventions of standard English in oral and written communication.
4. Exploring and Responding To Texts	Students will use the language arts to explore and respond to classical and contemporary texts from many cultures and literary periods.

NOTE: Examples provided for performance standards in each grade-level cluster (K-4, 5-8 and 9-12) are intended to suggest breadth and range, not to mandate texts or strategies.

CONTENT STANDARD 1: Reading and Responding

Students will read and respond in individual, literal, critical and evaluative ways to literary, informational and persuasive texts.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-12** will assure that students:

- ***describe the text by giving an initial reaction to the text and describing its general content and purpose;***

K-4: Students will describe the thoughts, opinions and questions that arise as they read, view or listen to a text and use relevant information from the text to summarize the content.

Example: Students read *Alexander and the Terrible, Horrible, No Good, Very Bad Day,* share their ideas about what makes a bad day for them, and summarize what happened to the character in the book.

5-8: Students will describe the thoughts, opinions and questions that arise as they read, view or listen to a text, then identify the central idea, purpose or theme of a work.

Example: Students read *Number the Stars,* generate questions for subsequent class discussion based on the book, and write a theme statement for the book after the class discussion.

9-12: Students will describe the thoughts, opinions and questions that arise as they read, view or listen to a text, demonstrate a basic understanding of the text, and identify inconsistencies and ambiguities.

Example: Students read *Pride and Prejudice* and keep a journal to note their reactions to the relationships among the various characters and events in the story, and share examples of events from the novel that illustrate inconsistencies between characters' words and actions.

- ***interpret the text by using prior knowledge and experiences;***

K-4: Students will use what they know to identify or infer important characters, settings, themes, events, ideas, relationships or details within a work.

Example: Students read *Encyclopedia Brown,* then use their experience to role play a scene in which Encyclopedia solves a problem for a character from another story.

5-8: Students will use what they know to identify or infer important characters, settings, themes, events, ideas, relationships or details within a work and draw conclusions about the author's purpose.

Example: Students read *House on Mango Street,* discuss how the stories differ from their own life stories, then write a review focusing on the author's choices to post on their school's web site or bulletin board.

9-12: Students will examine the fit between the text and prior knowledge by reconciling differences, extracting clues or evidence, making inferences, drawing conclusions, predicting events, inferring motives and generalizing beyond the text.

Example: Students read *How the Garcia Girls Lost their Accent,* then report their conclusions about characters' motivations in an essay and relate them to the motivations of characters in another novel.

(continued)

CONTENT STANDARD 1: Reading and Responding

K-12 PERFORMANCE STANDARDS, continued

- ***reflect on the text to make judgments about its meaning and quality;***

K-4: Students will analyze, elaborate on and respond critically to works.

Example: Students read *The Velveteen Rabbit*, list the character's traits, then tell their partners whether or not they like the story and why.

5-8: Students will evaluate explicit and implicit information within a work and compare and contrast the work to others with similar topics, themes, characters or problems.

Example: Students read and compare *Call of the Wild* and *Hatchet*, then debate which is a better piece of literature and why.

9-12: Students will demonstrate literary and aesthetic appreciation of the text, awareness of the author's style, understanding of textual features, and ability to challenge the text and think divergently.

Example: Students read Ralph Ellison's *Invisible Man*, then engage in a discussion of student-generated and teacher-presented questions based on the text about its literary merit.

- ***analyze text and task, set purpose and plan appropriate strategies for comprehending, interpreting and evaluating texts;***

K-4: Students will identify the type of text and use strategies (talking and writing, utilizing graphic organizers, drawing, listing, creating time lines, etc.) to accomplish a range of reading tasks.

Example: Students determine a chapter's structure (chronological, cause and effect, problem and solution, etc.) in a history book then read the first chapter and analyze its illustrations to create an educational board game.

5-8: Students will determine and use the structure of a written work to construct meaning and to select the best comprehension tool (retelling, using graphic organizers or story frames, writing to find meaning, etc.) for their purpose.

Example: Students complete a chart of what they already know and the questions they have about the topic in their science book ("KWL Chart"); use the illustrations, chapter headings, and charts and graphs to begin to answer their questions; then read the chapter to answer the remaining questions.

9-12: Students will adapt appropriate strategies to deepen initial understanding and go beyond the text to judge its literary quality.

Example: Students read *Lord of the Flies*, chart the conflicts among characters, then write an essay explaining what the novel reveals about the author's view of human nature, and compare that view to others of the same time period.

(continued)

K-12 PERFORMANCE STANDARDS, continued

- *generate questions before, during and after reading, writing, listening and viewing;*

K-4: Students will ask and answer their own and each other's literal and inferential text-related questions.

Example: Students brainstorm and respond to a list of questions that result from looking at the cover of a science book.

5-8: Students will ask and answer their own and each other's evaluative and interpretive questions.

Example: Students read a classmate's original short story and periodically pause to list the questions they would like the author to answer about the effect the author's choices about characters, conflict, setting, theme, etc., had on the story.

9-12: Students will ask and answer their own and each other's text-related critical and analytical questions.

Example: Students finish reading *Heart of Darkness* in preparation for an Advanced Placement examination, then create and answer a series of questions that respond to their understanding of a critic's analysis of the text.

- *make and confirm or revise predictions;*

K-4: Students will listen to, read and view texts, tell periodically how they think texts will turn out, then read to decide if their predictions prove accurate.

Example: Students listen to a version of *Little Red Riding Hood*, say what they think will happen to the main character, listen to the rest of the story, and discuss their original predictions.

5-8: Students will predict as they read, listen to and view texts, then review the texts to assess the plausibility of their predictions.

Example: Students read letters to Ann Landers, write their own replies, and compare them to Ann Landers' replies.

9-12: Students will predict outcomes of the texts they read, listen to and view, then assess the validity of their predictions.

Example: Students read the first section of *The Bet*, predict what actions each character will take, then read the rest of the story to assess their predictions.

(continued)

K-12 PERFORMANCE STANDARDS, continued

- *use a variety of monitoring and self-correcting methods (skimming, scanning, reading ahead, re-reading, using resources, summarizing, retelling, readjusting speed);*

K-4: Students will practice using strategies to monitor and self-correct their comprehension as they read texts.

Example: Students silently read the first few pages of *Riki,Tiki, Tavi,* tell a partner what they have read, then think aloud to describe the strategies they used to aid their comprehension and the methods they will use to proceed with the rest of the story.

5-8: Students will apply the variety of methods of monitoring and self-correcting to all texts read, listened to and viewed.

Example: Students read *My Side of the Mountain* and identify the processes they used to understand the story.

9-12: Students will determine the most effective means of monitoring their comprehension, then apply those methods to texts read, listened to and viewed.

Example: Students read Act I of *Macbeth,* pausing to reflect on their comprehension processes and to adjust where necessary.

- *use the structure of narrative, expository, persuasive, poetic and visual text to interpret and extend meaning;*

K-4: Students will identify the ways in which the various genre structures differ from each other.

Example: Students list the differences in the story and play formats of *Three Little Pigs.*

5-8: Students will identify the features of various types of texts and apply their understanding to their examination of the texts.

Example: Students discuss the literary elements of the ballad "The Highwayman."

9-12: Students will apply their understanding of textual features of each genre to their interpretations of that genre.

Example: Students analyze the reasons for Shakespeare's inclusion of both poetry and prose in *Hamlet.*

(continued)

K-12 PERFORMANCE STANDARDS, continued

- *select and apply efficient and effective word recognition strategies, including contextual clues, picture clues, phonics and structural analysis;*

K-4: Students will learn and use effectively the complete variety of word recognition strategies to aid in comprehension.

Example: Students read books at their instructional level and unlock unknown words by attending to the beginning sound, finding clue words, looking for known chunks in the word, and determining if their word choice makes sense.

5-8: Students will apply all appropriate word recognition strategies to perfect reading fluency.

Example: Students apply the contextual clue strategies their teacher has modeled as they read an encyclopedia entry in preparation for researching a country of their roots.

9-12: Students use word recognition strategies to perfect reading fluency in ever more sophisticated works.

Example: Students orally read *Romeo and Juliet* and use the context and drawings to comprehend Elizabethan phrases.

- *use a variety of strategies to develop an extensive vocabulary;*

K-4: Students will read extensively, cluster, define, identify word parts and use other such strategies to build their comprehension skills.

Example: Students develop and use a list of adjectives to write a descriptive essay about their best friend as part of a thematic unit on friendship.

5-8: Students will read extensively and apply a variety of vocabulary strategies to ensure advanced levels of comprehension.

Example: Students cluster Latin derivatives used in the classification system before reading a relevant chapter in their science text.

9-12: Students will read extensively and apply the variety of vocabulary strategies to read ever more complex texts.

Example: Students analyze the denotation and connotation of words used in a political campaign speech for the purpose of selecting powerful words to incorporate into their own speeches.

(continued)

K-12 PERFORMANCE STANDARDS, continued

- *identify and use main ideas and supporting details in informational texts or elements, such as key events, main characters and setting in narratives;*

K-4: Students will retell and evaluate stories and select the most important facts from informational texts.

Example: Students read an article in *Sports Illustrated for Children* and tell why one team was more prepared for the championship game than another.

5-8: Students will use the elements of narrative text to understand fiction and will use the elements of nonfiction to identify pertinent data.

Examples: Students read the book, then view the video, *Indian in the Cupboard*, and compare the representation of character and setting in each.

9-12: Students will describe theme, symbolism, tone and other complex elements of fiction, and identify point of view, manipulative language and other elements of bias in nonfiction materials.

Example: Students read editorials in two newspapers and compare the positions and writers' strategies taken on a similar issue.

- *make inferences about ideas implicit in narrative, expository, persuasive and poetic texts;*

K-4: Students will support their inferences, orally and/or in writing, by referring to the materials read.

Example: Students listen to a story being read on a *Reading Rainbow* video, then meet with a partner to tell each other why they think the protagonist made certain choices.

5-8: Students will identify the specific passages that support the ideas they take from both fiction and nonfiction.

Example: After reading *Farewell to Manzanar*, students will discuss what the family's life had been like before the events described in the novel, supporting their inferences with references to the novel.

9-12: Students will use the literary elements of a text (theme, symbolism, imagery, conflict, etc.) to draw conclusions about a text.

Example: Students meet in groups to share their interpretations of the symbolism in Maya Angelou's poem, "Caged Bird," then report the group's findings to the class.

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CONTENT STANDARD 1: **Reading and Responding**

K-12 PERFORMANCE STANDARDS, continued

- ***understand that a single text may elicit a wide variety of responses; and***

K-4: Students will generate a variety of responses based upon the experiences they have had.

Example: Students discuss how the events in a shared story remind them of events in other stories or in their lives.

5-8: Students will judge the plausibility of several interpretations of a text.

Example: Students view *The Monkey's Paw,* then listen to their classmates' reactions before writing their own play review.

9-12: Students will entertain, explore and defend multiple interpretations of all fiction and nonfiction they read.

Example: Students read and discuss classmates' and scholars' criticisms of *The Wasteland* and explain how their interpretation changed or did not change as a result of others' opinions.

- ***interact with others in creating, interpreting and evaluating written, oral and visual texts.***

K-4: Students will participate in a variety of cooperative group activities to apply collaborative skills (e.g., making eye contact, waiting turns, listening, taking others' ideas into account, explaining clearly, restating) to their reading, writing, listening and viewing.

Example: Students work together to contribute livelier words to the paragraphs on the board.

5-8: Students will interact in a variety of groupings to develop further the skills of collaboration to enhance their understanding of works read, written and viewed.

Example: Students watch a demonstration, read a how-to explanation, then work with science lab partners to write a report on dissecting a worm.

9-12: Students will apply collaborative skills to elaborate on concepts being addressed and to describe processes used in achieving results.

Example: Students meet with their research team to share their findings on the causes of the Holocaust and to describe the process they went through to reach their conclusions.

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CONTENT STANDARD 2: Producing Texts

Students will produce written, oral and visual texts to express, develop and substantiate ideas and experiences.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-12** will assure that students:

- ***communicate effectively by determining the appropriate text structure on the basis of audience, purpose and point of view;***

K-4: Students will decide upon purpose, audience and point of view, then select from a group of text types, such as narrative, nonfiction and poetry, the most appropriate genre to convey their meaning.

Example: Students determine an issue to address; decide whether to address the issue in a story, poem or essay; write; then revise to have their writing make sense.

5-8: Students will determine purpose, point of view and audience, then use the appropriate features of persuasive, narrative, expository and poetic writing to achieve desired results.

Example: Students write a letter to the mayor, persuading him or her to reevaluate his or her stand on recycling.

9-12: Students will select from the complete variety of text structures (essay, short story, poetry, academic essay, report, research paper, response to literature, documentary, etc.) the appropriate organizational pattern for addressing audience, purpose and point of view.

Example: Students revise selected pieces of their writing for inclusion in their end-of-year demonstration folders to present a range of their skills.

- ***communicate effectively in descriptive, narrative, expository and persuasive modes;***

K-4: Students will speak, write or draw in a variety of modes (narratives, "all-about" nonfiction pieces, poetry) to tell stories that their audience understands.

Example: Students write and illustrate their own fairy tales.

5-8: Students will plan, organize, create and revise visual, written and oral pieces at a level of elaboration appropriate for middle school.

Example: Students use the CMT rubric (focus, organization and elaboration) to revise their own narrative essays after conferring with peers and completing a self-analysis of the piece.

9-12: Students will identify and use effectively the salient features of all appropriate oral, visual and written discourse.

Example: Students analyze documentaries, then imitate them to create a presentation on the philosophies of Thoreau, Gandhi and Martin Luther King.

(continued)

K-12 PERFORMANCE STANDARDS, continued

- *gather, select, organize and analyze information from primary and secondary sources;*

K-4: Students will generate questions for gathering data from appropriate first-hand, visual and print sources, and categorize the data to produce a product.

Example: Students track Internet explorers on the Silk Route through an Internet Program (such as Globalearn) as the explorers send back diaries and maps of their exploration.

5-8: Students will identify and use primary and secondary sources to paraphrase, elaborate on and integrate information into a final product, e.g., I-Search paper, historical fiction, news article, research paper, documentary.

Example: Students examine newspaper articles and interview participants in a local event to create a documentary showing both sides of an issue.

9-12: Students will determine which primary and secondary sources are appropriate to the task (research paper, fiction, school newspaper, video) and will integrate and elaborate upon information effectively in the final product.

Example: Students examine two pieces of literature, consider the arguments about them presented in multiple critical essays, and compile all into a literary research paper.

- *engage in a process of generating ideas, drafting, revising, editing and publishing or presenting; and*

K-4: Students will compose a piece of writing based on ideas generated through any of a variety of ways (writing, drawing, talking, webbing, listing, brainstorming), revise and proofread it, and present it to an audience.

Example: Students select a topic for study, use their notebooks to record data and organize information to create an essay.

5-8: Students will use and examine the effectiveness of multiple ways of generating ideas (brainstorming, listing, writing, talking, webbing, drawing), then compose, revise, edit and present a variety of products.

Example: Students complete a final draft of a poem then write a paragraph reflecting on their means of generating ideas and composing and revising the poem.

9-12: Students will identify and use the most effective process for them to create and present a written, oral or visual piece.

Example: Students write college application essays, identify the processes they have used to create them, then add the essays, if desired, to their school's web site.

(continued)

K-12 PERFORMANCE STANDARDS, continued

- *engage in writing, speaking and developing visual texts through frequent reflection, reevaluation and revision.*

K-4: Students will collect and examine, individually or with classmates, an array of their own stories and drawings, discuss the features they like, and say what they might do differently the next time.

Example: Students read favorite pieces of writing to their partners, who tell the writers what elements work and what questions they have about the piece of writing.

5-8: Students will keep and examine a variety of their products for the purposes of analyzing effectiveness and planning for ways of improving current and future work.

Example: Students choose a narrative written in the first person, change the point of view to the third person, and evaluate the strengths and weaknesses of each.

9-12: Students will maintain a multimedia portfólio which, along with providing a means for collecting their work, provides opportunities for student reflection and teacher/student dialogue regarding the students' creative processes.

Example: Students meet individually with their teacher to review an example of a work that has been extensively revised, then consider the strengths and weaknesses of the writing and set goals.

CONTENT STANDARD 3: Applying English Language Conventions

Students will apply the conventions of standard English language in oral and written communication.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-12** will assure that students:

- *proofread and edit for grammar, spelling, punctuation and capitalization;*

K-4: Students will develop proficiency in using capitalization, punctuation, usage and spelling skills appropriate for their grade level.

Example: Grade 1 students work with their partners to capitalize months, days and holidays in narrative essays.

5-8: Students will demonstrate proficient use of capitalization, punctuation, usage and spelling skills appropriate for their grade level and individual goals and develop proficiency in the use of resources for proofreading and editing.

Example: Students use a class-created editing rubric to proofread their persuasive letters to the principal regarding cafeteria conditions.

9-12: Students will demonstrate command of capitalization, punctuation, usage and spelling skills, and utilize effective strategies and appropriate resources for proofreading and editing.

Example: Students work in teams to proofread team members' short stories for grammar, usage, punctuation, spelling and capitalization.

- *speak and write using conventional patterns of syntax and diction;*

K-4: Students will use the spoken and written syntax and diction of the skilled writers and speakers with which they are made familiar.

Example: Students reexamine a descriptive piece about a trip, then revise the writing to improve sentence formation and word choice.

5-8: Students will recognize the difference between the spoken and written syntax of standard and nonstandard writers and speakers of English and will choose the most appropriate words for the particular purpose.

Example: Students use both standard English and dialect to create characters for a short story, then examine word choices for clarity and effect.

9-12: Students will use the spoken and written syntax made standard by television announcers and newspaper editorialists and will use the diction of skilled writers and orators.

Example: Students watch a tape of personalities on the evening news (e.g., sportscaster, weather person, news anchor) and comment on the effectiveness of syntax and diction patterns.

(continued)

CONTENT STANDARD 3: Applying English Language Conventions

K-12 PERFORMANCE STANDARDS, continued

- *use variations of language appropriate to purpose, audience and task;*

K-4: Students will compare the language used by various speakers and writers and determine when the language is and is not fitting.

Example: Students examine language used in the book of poems *Honey, I Love* and determine when the language would be suitable to use on the playground with friends, in the classroom with teachers, and at home with family members.

5-8: Students will determine the variations of language used by speakers and writers in various contexts and will incorporate suitable language in their own writing and speaking.

Example: Students compare the difference in language used in letters to the editor and sports articles and determine the reasons for these differences.

9-12: Students will evaluate the language they use in written and oral tasks for its suitability for the audience being addressed.

Example: Students write different versions of the same speech to persuade peers, the principal and the community to implement a program.

- *develop fluency and competency in the English language arts by using and building upon the strengths of the learner's language and culture; and*

K-4: Students will read, listen to and tell stories from a variety of cultures, including their own, and identify the similarities and differences in the way the language is used.

Example: Students read a collection of works by authors such as Robert Munsch and Mildred Taylor, and distinguish between the language used by the narrator and that used by characters in the text.

5-8: Students will examine the literature they read and the writing they create to articulate variations between the patterns used in their home language and culture and those used in the works they read and write.

Example: Students read poetry from a cross-section of authors (Gary Soto, Nikki Giovanni, Leslie Marmon Silko), then discuss the reasons for the variations in language.

9-12: Students will understand the forms of the English language as they vary across linguistic communities and will use the accepted features of standard English and other linguistic communities, where appropriate, to create original written and oral works.

Example: Students newly arrived in the United States write poems in their native language and, using dictionaries, translate their poems into standard English.

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CONTENT STANDARD 3: Applying English Language Conventions

K-12 PERFORMANCE STANDARDS, continued

- *understand that an accepted practice in spoken and written language may change over time.*

K-4: Students will understand that words and expressions with which they are familiar have evolved and changed form over time.

Example: Students work with their teacher and peers to research the origins of compound words to recognize the evolution from hyphenated to an accepted compound word.

5-8: Students will explore works to identify words and conventions not currently used in everyday language.

Example: Students study the Gettysburg Address, noting uncommon phrases or words, and discuss the way Lincoln might have phrased the speech if he were writing it today.

9-12: Students will draw conclusions regarding the evolution of language and how it influences and reflects societal changes.

Example: Students read and compare the use of language in the *Plessy vs. Ferguson* decision with that of *Brown vs. Board of Education.*

CONTENT STANDARD 4: Exploring and Responding to Texts

Students will use the language arts to explore and respond to classical and contemporary texts from many cultures and literary periods.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-12** will assure that students:

- ***explore and respond to classic literary text that has shaped Western thought;***

K-4: Students will read/listen to/view a variety of children's classics and talk about the ways life today is similar to the characters' lives.

Example: Students watch a play version of *The Tortoise and the Hare,* talk about the reasons the tortoise won the race, and discuss the possible kinds of classwork each of the characters would produce.

5-8: Students will read an array of literary classics and note themes, issues and ideas in the texts that are still influential in our present world.

Example: Students read Robert Frost's "The Road Not Taken" and write a response relating the poem to other texts that examine the consequences of one's choices.

9-12: Students will read the important classics of their grade level, determine the ways in which they have shaped Western culture, and analyze the reasons for their being considered "classics."

Example: Students read *Julius Caesar,* determine why Brutus betrays Caesar, discuss the reasons for a citizen's taking action against a leader, and argue for or against keeping the text in the curriculum.

- ***explore and respond to contemporary literature;***

K-4: Students will read, view and listen to a variety of recent children's literature and react to it in a variety of ways.

Example: Students keep and share a response journal in which they draw pictures and/or write in reaction to the characters and events in *Ira Sleeps Over.*

5-8: Students will read, view and listen to current works appropriate for their age level, then discuss the issues raised.

Example: Students keep and exchange journals in which, in preparation for reading *The Diary of a Young Girl,* by Anne Frank, they respond to articles written for the 50th anniversary of the Holocaust.

9-12: Students will read, view and listen to key works of contemporary literature and create responses that examine the works' principal elements.

Example: Students interview parents and friends to create a class list of best recent titles, take a field trip to a local book store to purchase books, then produce essays of literary criticism on their selected books.

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K-12 PERFORMANCE STANDARDS, continued

- *evaluate the merit of literary text on the basis of individual preferences and established standards;*

K-4: Students will declare their opinions about each of the works they read, listen to and view, then rate each according to such features as character development, conflict and theme.

Example: Students take turns reading aloud, then explain why they like or dislike a work and offer sufficient support for their reasons.

5-8: Students will examine the individual appeal of the works they read, listen to or view, and determine whether or not the author effectively used literary elements such as setting, point of view, irony, theme and conflict.

Example: Students listen to an audiotape of Martin Luther King's "I Have a Dream" speech and identify the features that appeal to them and rhetorical devices that make the speech effective.

9-12: Students will analyze the appeal of various works and determine their literary value.

Example: Students rank the works they have read, listened to and viewed during the year, first according to their own criteria, then according to traditional criteria of literary critics, and comment on any differences.

- *examine the ways readers and writers are influenced by individual, social, cultural and historical context;*

K-4: Students discuss how the works they read and write are dependent upon factors such as the time, culture and experience of the readers and writers.

Example: Students participate in an author study and examine an author's biography to determine the various influences on the author's works.

5-8: Students understand that authors and readers are influenced by their times and experiences and identify those influences in the works they read, listen to and view.

Example: Students participate in literature circles, then create a chart to examine historical, social and cultural elements in Laura Ingall's historical fiction series, *Little House on the Prairie*.

9-12: Students will determine the various influences on authors and analyze the impact of those influences on the text.

Example: Students research colonial times, read sermons of the period, then determine which issues of the time shape the sermons and which issues arise from the author's own experiences.

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CONTENT STANDARD 4: Exploring and Responding to Texts

K-12 PERFORMANCE STANDARDS, continued

- *recognize literary conventions and devices and understand how they convey meaning;*

K-4: Students will identify the literary conventions and devices used in such genres as folk tales, fairy tales, tall tales and poems, and tell how those conventions and devices help the reader understand the genre.

Example: Students read *Hailstones and Halibut Bones* and identify and explain the metaphors.

5-8: Students will explain how literary conventions such as romantic love in the Arthurian legends or heroism in historical fiction, and literary devices such as figures of speech, imagery and symbolism, contribute to their understanding of the text.

Example: Students explain how the extended metaphor in Langston Hughes's "Mother to Son" helps the reader understand the poem's theme.

9-12: Students will explain how all of the literary conventions and devices in a text or performance are used by an author to express tone, create mood and establish overall theme.

Example: Students analyze how diction, imagery, syntax and author's style establish the tone and mood of Wordsworth's sonnets.

- *demonstrate an understanding that literature represents, recreates, shapes and explores human experience through language and imagination;*

K-4: Students will respond to literary works to determine various aspects that connect to their own lives.

Example: Students read *Charlotte's Web* and respond in their journals, connecting characters' attributes to human qualities.

5-8: Students will read works from different literary periods to determine how literature represents the human experience.

Example: Students read diaries from different periods and determine how literature represents experiences, noting the historical events which surrounded the diary keepers as they wrote.

9-12: Students will read, listen to and view literary texts and identify and explain the human experiences they convey.

Example: Students work in groups to write a script and present a play, connecting a literary experience to their lives.

(continued)

CONTENT STANDARD 4: Exploring and Responding to Texts

K-12 PERFORMANCE STANDARDS, continued

- ***explore and respond to the aesthetic elements of literature, including spoken, visual and written texts;***

K-4: Students will note in their independent reading the qualities they like and dislike.

Example: Students respond in their reader-response journals, giving reasons for why they like or dislike *Grandpa's Face.*

5-8: Students will identify and discuss the aesthetic attributes of literary works.

Example: Students work in pairs to prepare a presentation which focuses on aesthetic elements in *My Brother, My Sister and I.*

9-12: Students will name and explain their aesthetic reactions to literary works.

Example: Students read and respond to *Joy Luck Club* and research a contemporary critic with a different point of view.

- ***use literature as a resource to explore ideas and decisions, as well as political and social issues;***

K-4: Students will determine the various ways people use literature to convey a message.

Example: Students study environmental issues, then research magazines, commercials and stories that relate to their study.

5-8: Students will read works with archetypal characters and themes to determine the political and social issues of concern to ancient peoples and the relationship to political and social issues of concern today.

Example: Students role play mythological figures to participate in a debate on a current issue.

9-12: Students will read classic and contemporary literature to determine political and social ideas which characterize those works.

Example: Students read *To Kill a Mockingbird* and *Things Fall Apart* and evaluate the political and social ideas expressed in the works.

(continued)

CONTENT STANDARD 4: Exploring and Responding to Texts

K-12 PERFORMANCE STANDARDS, continued

- *identify the unique and shared qualities of the voices, cultures and historical periods in literature; and*

K-4: Students will read a variety of works related to specific time periods to understand other cultural and historical periods.

Example: Students read literature about Native American peoples to understand those cultures.

5-8: Students will read classic and contemporary texts and conduct related research to understand the cultural influences of a time period on its works.

Example: Students read the novels *My Brother Sam is Dead* and *April Morning* and research historical texts to understand the cultural life portrayed in the novels.

9-12: Students will examine classical and contemporary literature to consider various cultural and historical influences on the authors.

Example: Students compare the novels *Red Badge of Courage* and *Gone with the Wind* and write a literary essay to show their understanding of the cultural and historical period portrayed.

- *explore and respond to text representing both the literary tradition and the diversity of American cultural heritage.*

K-4: Students will read and respond to works by a variety of American and traditional authors.

Example: Students read various works and identify the conflicting accounts of Christopher Columbus' place in history.

5-8: Students will read and respond to works that reflect various American experiences and those of the milieu of traditional literature.

Example: Students read accounts written by women during the period of the westward expansion and respond in their journals to the topic of American diversity.

9-12: Students will read and respond to both classic and contemporary texts to examine themes central to the American experience and those portrayed in the range of traditional literature.

Example: Students read *Of Mice and Men* and explore issues related to the theme of "The American Dream."

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Glossary

CONSTRUCTING MEANING: (From the Connecticut Mastery Test, Grades 4, 6 and 8) To develop an initial understanding and interpretation. The student will demonstrate the ability to construct meaning with a variety of types of text:

- Identify or infer the central idea, purpose or theme within a written work.
- Identify important characters, settings, events, relationships and details within a written work.
- Infer important characters, settings, events or relationships within a written work.
- Select and use relevant information from a written work in order to summarize.
- Draw conclusions about the author's purpose in including or omitting specific details in a written work (Grades 6 and 8).

FLUENCY: the ability to read, write, speak and view accurately and rapidly without an interruption in one's understanding or processing.

GRAPHIC ORGANIZERS: ways to visually represent ideas to promote comprehension. For further explanation and examples, see the *Connecticut Mastery Test Language Arts Handbook*, CSDE, 1994.

PHONEMIC AWARENESS: awareness that sounds (phonemes) make up spoken words. In order to learn the relationship between letters and sounds, a person must have some understanding of the idea that words are made up of phonemes. (For further explanation, see Harris and Hodges, *The Literacy Dictionary*, IRA.)

TEXT: for the purposes of this framework, "text" refers to materials containing words. Our definition of "text" goes beyond written materials and includes oral and visual materials, because teachers use them as important parts of instruction.

LEARNING RESOURCES AND INFORMATION TECHNOLOGY FRAMEWORK

Connecticut State Department of Education
Division of Teaching and Learning
March 1998

LEARNING RESOURCES AND INFORMATION TECHNOLOGY

By the end of Grade 12, students will be independent, competent and confident users of information and technology and able to apply related strategies for acquiring basic skills and content knowledge, communicating ideas, solving problems and pursuing personal interests.

PROGRAM GOALS

As a result of education in **Grades K-12**, each student will:

- identify and apply a wide range of educational technologies to conduct research, communicate information and ideas, create original works, organize data and solve problems;
- use effective and efficient strategies to explore and use an information- and technology-rich environment to gain knowledge, deepen understanding and solve complex problems;
- use technology to enhance essential skills and facilitate learning in the content areas; and
- apply the skills necessary to locate, evaluate, interpret and synthesize information from print, nonprint and electronic sources.

K-12 CONTENT STANDARDS

1. **Defining Information Needs**	Students will define their information needs and identify effective courses of action to conduct research, solve complex problems and pursue personal interests.
2. **Information Systems**	Students will apply principles of organized information systems to learning endeavors.
3. **Information Strategies**	Students will demonstrate a command of information skills and strategies to locate and use effectively print, nonprint and/or electronic resources to solve problems, conduct research and pursue personal interests.
4. **Information Processing**	Students will apply evaluative criteria to the selection, interpretation, analysis, reorganization and synthesis of information from a variety of sources and formats.
5. **Application**	Students will use appropriate technologies to create written, visual, oral and multimedia products to communicate ideas, information or conclusions to others.
6. **Evaluation**	Students will evaluate the effectiveness and efficiency of their own choices and use of information and technology for problem-solving and communication.
7. **Responsible Information Use**	Students will demonstrate the responsible and legal use of information resources, computers or other technologies, recognizing the attendant social, economic and ethical issues.

CONTENT STANDARD 1: Defining Information Needs

Students will define their information needs and identify effective courses of action to conduct research, solve complex problems and pursue personal interests.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- clearly restate the scope and ground rules of a task (such as time line, length, audience and presentation mode) with minimal prompting;
- identify their existing knowledge and, with assistance, list areas where more information is needed;
- frame an essential question related to a topic of interest or assignment with assistance;
- identify key words for searching for information with assistance;
- identify, locate and use appropriate print, nonprint and/or electronic resources available through their school library media center with assistance; and
- describe a course of action for addressing the essential question and completing the task.

Educational experiences in **Grades 5-8** will assure that students:

- demonstrate competency in previously identified performance standards;
- independently and clearly restate the scope and ground rules for a given task;
- identify and discuss existing knowledge concerning a given task without prompting;
- frame an essential question using given information, and pose additional questions related to completion of the task;
- identify key words for searching information sources with minimal assistance;
- identify, locate and use an array of print, nonprint and electronic resources available through their library media center independently, and with assistance, access resources outside the school; and

(continued)

Educational experiences in **Grades 9-12** will assure that students:

- demonstrate competency in previously identified performance standards;
- independently and clearly state the scope and ground rules for a given task and demonstrate the ability to communicate them to others;
- independently identify and assess existing knowledge related to a given task and articulate information needs to information providers or peers;
- develop essential questions related to a topic and formulate a research hypothesis related to the topic;
- independently identify key words for searching information sources;
- independently search print, nonprint and electronic resources within and outside their school; and

(continued)

CONTENT STANDARD 1: Defining Information Needs

K-12 PERFORMANCE STANDARDS, continued

	Educational experiences in **Grades 5-8** will assure that students:	Educational experiences in **Grades 9-12** will assure that students:
	• describe more than one course of action for addressing the essential question and select the most effective one with assistance.	• independently describe alternative courses of action for accomplishing a task and apply criteria for selecting a specific strategy.

CONTENT STANDARD 2: Information Systems

Students will apply principles of organized information systems to learning endeavors.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- alphabetize by word to find information in resources;
- use simple menus to locate information from electronic media;
- perform simple key word searches;
- demonstrate the ability to locate information from various areas of the library media center, such as fiction, nonfiction and reference; and
- use the on-line catalog or card catalog with assistance to locate resources.

Educational experiences in **Grades 5-8** will assure that students:

- demonstrate competency in previously identified performance standards;
- independently use the on-line catalog or card catalog to locate materials by author, title or subject, including cross references/links;
- use Boolean logic to search electronic databases;
- describe principles of library organization (e.g., Dewey Decimal System, database protocols);
- demonstrate the ability to navigate through a variety of software menus to access information; and
- understand the variety of ways indexes are used as organizers for information systems.

Educational experiences in **Grades 9-12** will assure that students:

- demonstrate competency in previously identified performance standards;
- independently access specific information from print and nonprint resources by using internal organizers (e.g., indexes and cross references); and
- apply standard principles of library and information systems organization to locate resources in other libraries and databases.

CONTENT STANDARD 4: Information Processing

Students will demonstrate a command of information skills and strategies to locate and use effectively print, nonprint and/or electronic resources to solve problems, conduct research and pursue personal interests.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- select appropriate resources from a variety of media formats;
- use correct library/information/technology terminology;
- identify basic print, nonprint and electronic media formats and their characteristics, advantages and disadvantages;
- interpret simple charts, graphs and tables; and
- identify and use basic print, nonprint and electronic reference sources (e.g., atlases, almanacs, encyclopedias, dictionaries).

Educational experiences in **Grades 5-8** will assure that students:

- demonstrate competency in previously identified performance standards;
- use organizing features of print, nonprint and electronic materials (tables of contents, menus, indexes, bibliographies and hyperlinks) to locate and use information;
- search, find, sort and evaluate database information from computers, CD-ROM and on-line databases;
- select and use appropriate resources and/or equipment to accomplish a given task; and
- demonstrate ability to take notes, print out or record selected information from a wide range of sources of information.

Educational experiences in **Grades 9-12** will assure that students:

- demonstrate competency in previously identified performance standards;
- use advanced references, indexes, dictionaries and abstracts;
- use key word descriptors and Boolean logic to perform advanced on-line and CD-ROM searches (e.g., field searches);
- gather information from primary and secondary sources;
- independently use the full range of print, nonprint and electronic resources within the school or district; and
- demonstrate the ability to establish connectivity with resources outside the school (e.g., e-mail, computer conferencing, the Internet, the Connecticut Library Network).

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CONTENT STANDARD 4: **Information Processing**

Students will apply evaluative criteria to the selection, interpretation, analysis, reorganization and synthesis of information from a variety of sources and formats.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- use simple evaluative criteria to select materials of interest at an appropriate ability level;
- identify appropriate sources of information for a specific purpose;
- distinguish between fiction and nonfiction;
- develop criteria to judge the relevance and completeness of information; and
- demonstrate attentive and purposeful listening and viewing skills.

Educational experiences in **Grades 5-8** will assure that students:

- demonstrate competency in previously identified performance standards;
- develop and apply more complex criteria for aligning resources with a specific need and presentation;
- differentiate among fiction, nonfiction and opinion;
- discern stereotypes, biases and propaganda techniques in print, nonprint and electronic resources;
- use critical evaluation skills in viewing and listening; and
- develop and apply criteria for evaluating Internet resources.

Educational experiences in **Grades 9-12** will assure that students:

- demonstrate competency in previously identified performance standards;
- develop and use personal and established criteria for selecting materials of appropriate breadth and depth of detail, format, illustrations, special features, level, content and purpose;
- demonstrate ability to identify sources of information and apply evaluative criteria, including motive, point of view, biases and stereotypes, accuracy, continuity and currency;
- organize information for applications by determining an appropriate organizational style and the most effective method of presentation for the purpose and audience;
- synthesize information to draw meaningful conclusions; and
- demonstrate ability to redefine/adjust evaluative criteria applied to information during the research process and for the resulting product.

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CONTENT STANDARD 5: Application

Students will use appropriate technologies to create written, visual, oral and multimedia products to communicate ideas, information or conclusions to others.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- use appropriate software (e.g., word processing, desktop publishing, graphing or charting) to create clear and organized presentations of ideas and conclusions;
- use telecommunications, with assistance, to post queries and present responses and new information to the electronic learning community;
- use video, audio and multimedia tools to create clear and meaningful presentations of ideas;
- demonstrate basic operation of equipment needed for information access; and
- demonstrate an ability to take notes with assistance.

Educational experiences in **Grades 5-8** will assure that students:

- demonstrate competency in previously identified performance standards;
- demonstrate an understanding of the strengths and weaknesses of various media formats as communications vehicles;
- use appropriate software (e.g., spreadsheet, database, hypermedia) to construct, organize, analyze and interpret ideas and data, and present conclusions;
- independently use telecommunications to locate and correspond with peers involved in similar studies; and
- select media from a variety of resources to create a multimedia presentation.

Educational experiences in **Grades 9-12** will assure that students:

- demonstrate competency in previously identified performance standards;
- create databases and spreadsheets and a variety of graphic presentations to communicate numeric information in an organized form;
- independently use telecommunications to search for and identify potential work, career or study opportunities; and
- independently determine the most appropriate technologies and formats to use in presenting materials gathered from a variety of print, nonprint and electronic sources and to create a presentation that clearly communicates information and new knowledge.

CONTENT STANDARD 6: Evaluation

Students will evaluate the effectiveness and efficiency of their own choices and uses of information and technology for problem-solving and communication.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- apply process and content standards for searching, with assistance;
- assess, with assistance, the relevancy (quality) of retrieved information to the assigned need and the completeness (quantity) of information for the assignment; and
- create, with assistance, products which meet conventional standards, express ideas clearly to diverse audiences and use a variety of appropriate technologies.

Educational experiences in **Grades 5-8** will assure that students:

- demonstrate competency in previously identified performance standards;
- assess the quality and quantity of retrieved information and, with assistance, assess the credibility of retrieved information against the assigned need;
- with assistance and during the process, analyze and adjust their information search strategy; and
- assess the overall effectiveness and efficiency of their search performance upon completion of the assignment.

Educational experiences in **Grades 9-12** will assure that students:

- demonstrate competency in previously identified performance standards;
- independently and continuously assess the quantity and quality (relevance, credibility) of retrieved information;
- monitor and adjust their search process continuously to improve its efficiency; and
- create products which meet conventional and personal standards for process, product and presentation.

CONTENT STANDARD 7: Responsible Information Use

Students will demonstrate the responsible and legal use of information resources, computers and other technologies, recognizing the attendant social, economic and ethical issues.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- apply established bibliographic standards for giving credit for information or ideas used;
- observe the legal and ethical limitations for using or copying print, nonprint or electronic information sources; and
- demonstrate an understanding of the concept of ownership of ideas and information by respecting and observing laws and/or guidelines for using information, hardware and networks.

Educational experiences in **Grades 5-8** will assure that students:

- demonstrate competency in previously identified performance standards;
- observe, in all original work, the ethical restraints imposed by copyright on using and transmitting information;
- observe educational "fair use" guidelines for all types of protected materials;
- differentiate among various types of ownership or protection of intellectual property (e.g., copyright, patents); and
- demonstrate responsible and ethical use of hardware and networks.

Educational experiences in **Grades 9-12** will assure that students:

- demonstrate competency in previously identified performance standards;
- give complete bibliographic credit to original sources when using or transmitting information to others;
- observe all ethical and legal restraints in copying or using material from any print, nonprint or electronic resources; and
- demonstrate an understanding of the process for copyrighting/protecting their own original work.

MATHEMATICS CURRICULUM FRAMEWORK

Connecticut State Department of Education
Division of Teaching and Learning
March 1998

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MATHEMATICS

By the end of Grade 12, students will apply proficiently a range of numerical, algebraic, geometric and statistical concepts and skills to formulate, analyze and solve real-world problems; to facilitate inquiry and the exploration of real-world phenomena; and to support continued development and appreciation of mathematics as a discipline.

PROGRAM GOALS

As a result of education in Grades K-12, students will:

- communicate numerical, geometric, algebraic and statistical ideas orally and in written form with models, pictures, graphs and mathematical symbols, using paper and pencil, a variety of calculator displays, spreadsheets, graphing packages, word processing and other related computer software;

- use inductive and deductive reasoning to make, defend and evaluate conjectures and arguments, to justify assertions and verify tentative conclusions, and to solve mathematical problems;

- use mathematical skills and concepts to make and justify decisions and predictions, to identify patterns and trends, to pose questions from data and situations, and to formulate and solve problems;

- identify and use connections within mathematics to identify interrelationships and equivalent representations, to construct mathematical models, and to investigate and appreciate mathematical structure;

- use mathematical skills and concepts to describe and analyze data and measurements from other disciplines;

- select and use appropriate approaches and tools for solving computational, geometric and algebraic problems, including estimation, mental computation, guess and test, paper and pencil, calculators and computers with software for tabulating, charting, graphing, drawing and transforming data and images; and

- use mathematical skills and concepts with proficiency and confidence, and appreciate the power and utility of mathematics as a discipline and as a tool for solving problems.

K-12 CONTENT STANDARDS

1.	**Number Sense**	Students will use numbers to count, measure, compare, order, scale, locate and label, and use a variety of numerical representations to present, interpret, communicate and connect various kinds of numerical information.
2.	**Operations**	Students will add, subtract, multiply and divide with whole numbers, fractions, decimals and integers, and develop strategies for selecting the appropriate computational and operational methods for solving problems.
3.	**Estimation and Approximation**	Students will make estimates and approximations, and judge the reasonableness of results.
4.	**Ratios, Proportions and Percents**	Students will use ratios, proportions and percents to represent relationships between quantities and measures and solve problems involving ratios, proportions and percents.
5.	**Measurement**	Students will make and use measurements in both customary and metric units to approximate, measure and compute length, area, volume, mass, temperature, angle and time.
6.	**Spatial Relationships and Geometry**	Students will analyze and use spatial relationships and basic concepts of geometry to construct, draw, describe and compare geometric models and their transformations, and use geometric relationships and patterns to solve problems.
7.	**Probability and Statistics**	Students will use basic concepts of probability and statistics to collect, organize, display and analyze data, simulate events and test hypotheses.
8.	**Patterns**	Students will discover, analyze, describe, extend and create patterns, and use patterns to describe mathematical and other real-world phenomena.
9.	**Algebra and Functions**	Students will use algebraic skills and concepts, including functions, to describe real-world phenomena symbolically and graphically, and to model quantitative change.
10.	**Discrete Mathematics**	Students will use the concepts and processes of discrete mathematics to analyze and model a variety of real-world situations that involve recurring relationships, sequences, networks, combinations and permutations.

CONTENT STANDARD 1: Number Sense

Students will use numbers to count, measure, compare, order, scale, locate and label, and use a variety of numerical representations to present, interpret, communicate and connect various kinds of numerical information.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- use real-life experiences, physical materials and technology to construct meanings for whole numbers, commonly used fractions and decimals;
- understand our numeration system by modeling, counting, grouping and using place-value concepts;
- use numbers to count, as measures, labels and as indicators of location;
- use models and pictures to demonstrate understanding of equivalent forms of numbers;
- understand and use properties of numbers, including odd, even, ordinal and cardinal; and
- develop a sense of magnitude of numbers by ordering and comparing whole numbers, commonly used fractions, decimals and money amounts.

Educational experiences in **Grades 5-8** will assure that students:

- use real-life experiences, physical materials and technology to construct meanings for whole numbers, commonly used fractions, decimals and money amounts, and extend these understandings to construct meanings for integers, rational numbers, percents, exponents, roots, absolute value and scientific notation;
- model, represent and use numbers in a variety of equivalent forms (integer, fraction, decimal, percent, exponential and scientific notation) as they arise from real-world situations;
- use the equivalence of fractions, decimals and percents to select appropriate and efficient ways to write, order, compare, estimate and compute;

Educational experiences in **Grades 9-12** will assure that students:

- use real-life experiences, physical materials and technology to construct meanings for rational and irrational numbers, including integers, percents and roots;
- use number sense and the properties of various subsets of real numbers to solve real-world problems;
- develop and use an intuitive sense of the magnitude of numbers (including very large and very small numbers) and relate them to place value and exponential forms; and
- select an appropriate form to represent and use numerical data (integer, fraction, decimal, ratio, percent, exponential, scientific notation, irrational, complex) as they arise from real-world situations involving magnitude, order, measures, labels, locations and scales.

(continued)

K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades 5-8** will assure that students:

- develop and use a sense of order and magnitude of fractions, decimals, integers, powers and roots; and
- develop and apply number theory concepts (primes, factors, multiples and divisibility rules), as appropriate, in various real-world problem situations.

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CONTENT STANDARD 2: Operations

Students will add, subtract, multiply and divide with whole numbers, fractions, decimals and integers and develop strategies for selecting the appropriate computational and operational methods for solving problems.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- develop meaning for the operations by modeling, comparing and discussing a variety of problem situations;
- develop proficiency with basic addition, subtraction, multiplication and division facts through the use of a variety of strategies and contexts;
- use informal language, mathematical language and symbols to relate problem situations to operations;
- recognize that any one operation can be used to represent diverse problem situations, e.g., subtraction can be used in "take away," as well as comparison, situations;
- construct, use and explain a variety of procedures for performing whole number calculations; and
- understand and use relationships among operations, e.g., multiplication is repetitive addition; multiplication is the opposite of division.

Educational experiences in **Grades 5-8** will assure that students:

- maintain proficiency with basic addition, subtraction, multiplication and division facts through the use of a variety of strategies and contexts;
- develop, use and explain procedures for performing calculations with whole numbers, decimals, fractions and integers;
- understand the concepts of powers and roots, and apply them in problem situations;
- select and use an appropriate method for computing from among mental math, estimation, paper-and-pencil and calculator methods; and
- use relationships among operations and properties of operations (associative, commutative and distributive) as well as order of operations and inverses to simplify computations.

Educational experiences in **Grades 9-12** will assure that students:

- use arithmetic operations to solve problems encountered in everyday consumer situations;
- apply and explain procedures for performing calculations with whole numbers, decimals, fractions and integers;
- use appropriate methods for computing, including mental math, estimation, paper-and-pencil and calculator methods;
- use field properties and the relationship between operations and their inverses to justify mathematical procedures; and
- use absolute value, powers and roots; explore and use negative exponents on integers.

CONTENT STANDARD 3: Estimation and Approximation

Students will make estimates and approximations,
and judge the reasonableness of results.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- explore, construct and use a variety of estimation strategies;
- recognize when estimation is appropriate and understand the usefulness of an estimate as distinct from an exact answer;
- use estimation to determine the reasonableness of an answer;
- visually estimate length, area, volume and angle using various referents; and
- apply estimation when working with quantities, measures and problems.

Educational experiences in **Grades 5-8** will assure that students:

- develop, apply and explain a variety of estimation strategies in problem situations involving quantities and measures;
- use estimation to predict outcomes and determine reasonableness of results;
- recognize when estimation is appropriate and understand the usefulness of an estimate as distinct from an exact answer; and
- determine whether a given estimate is an overestimate or underestimate.

Educational experiences in **Grades 9-12** will assure that students:

- assess the reasonableness of answers to problems arrived at using pencil-and-paper techniques, mental math, formulas, calculators or computers;
- develop, use and apply a variety of estimation strategies in problem situations;
- make reasonable estimates of the values of formulas, functions and roots; and
- recognize the limitations of estimation and assess the amount of error resulting from estimation.

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CONTENT STANDARD 4: Ratios, Proportions and Percents

Students will use ratios, proportions and percents to represent relationships between quantities and measures and solve problems involving ratios, proportions and percents.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:	Educational experiences in **Grades 5-8** will assure that students:	Educational experiences in **Grades 9-12** will assure that students:
• describe simple ratios when comparing quantities.	• understand and use ratios, proportions and percents in a wide variety of situations; • develop, apply and explain methods for solving problems involving proportions and percents; • use and differentiate between fractional parts and ratios when comparing quantities; and • use dimensional analysis to identify and find equivalent rates.	• understand and explain the need for proportions and percents; • use ratios, proportions and percents to solve real-world problems; • use dimensional analysis and equivalent rates to solve problems; • describe direct and indirect variation and apply them to numerical, geometric and algebraic models and related problems; and • describe trigonometric ratios and apply them to measuring triangles.

CONTENT STANDARD 5: Measurement

Students will make and use measurements in both customary and metric units to approximate, measure and compute length, area, volume, mass, temperature, angle and time.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- use and describe measures of length, distance, capacity, mass, area, volume, time, temperature and angle;
- compare and order objects according to some measurable attribute;
- develop and use personal referents, such as fingers and arm spans, as estimates for standard units of measure; and
- select and use appropriate standard and nonstandard units of measurement to solve problems.

Educational experiences in **Grades 5-8** will assure that students:

- estimate, make and use measurements to describe and compare phenomena, and explore the structure and use of systems of measurement, including converting units within systems;
- select and use appropriate measurement units and tools to make measurements to the degree of accuracy required by the situation;
- solve problems involving the concept of, calculation of, and relationships among length, perimeter, area, volume, angle measure, capacity, weight, mass and temperature; and
- develop and use formulas and procedures for solving measurement problems.

Educational experiences in **Grades 9-12** will assure that students:

- extend, apply and formalize understandings of measurement, including strategies for determining perimeters, areas and volumes, and the dimensionality relationships among them;
- describe and apply the effect of a change in length on the area and volume of an object;
- choose appropriate tools and techniques to measure quantities to specified degrees of precision and accuracy;
- use techniques of algebra, geometry and trigonometry to measure quantities indirectly; and
- use and create scales and calibrations to solve problems involving measurement.

CONTENT STANDARD 6: Spatial Relationships and Geometry

Students will analyze and use spatial relationships and basic concepts of geometry to construct, draw, describe and compare geometric models and their transformations, and use geometric relationships and patterns to solve problems.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- describe, model, draw and classify shapes;
- investigate and predict the results of combining, subdividing and changing shapes;
- identify and use geometric shapes in various orientations, including rotations, reflections and translations;
- use real-life experiences, concrete objects and technology to explore and understand properties of 2- and 3-dimensional geometric shapes; and
- explore relationships among and properties of shapes, such as congruence, similarity and symmetry.

Educational experiences in **Grades 5-8** will assure that students:

- investigate, explore and describe the geometry in nature and real-world applications;
- identify, visualize, model, describe and compare properties of and relationships among 2- and 3-dimensional shapes;
- describe and use fundamental concepts and properties of, and relationships among, points, lines, planes, angles and shapes, including incidence, parallelism, perpendicularity, congruence, similarity and the Pythagorean theorem;
- construct, analyze and apply the effects of reflections, translations, rotations and dilations on various shapes;
- relate 2- and 3-dimensional geometry using shadows, perspectives, projections and maps; and
- solve real-world problems using geometric concepts.

Educational experiences in **Grades 9-12** will assure that students:

- use transformations, coordinates and vectors and appropriate computer software to explore and develop an understanding of Euclidean geometry;
- deduce properties of, and relationships among, figures from given assumptions;
- develop an understanding of an axiomatic system through geometric investigations, making conjectures, formulating arguments and constructing proofs;
- understand and analyze the geometry of three-dimensional shapes and their cross-sections;
- solve real-world and mathematical problems using geometric models; and
- interpret algebraic equations and inequalities geometrically, and describe geometric objects algebraically.

CONTENT STANDARD 7: Probability and Statistics

Students will use basic concepts of probability and statistics to collect, organize, display and analyze data, simulate events and test hypotheses.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- pose questions, make predictions and solve problems that involve collecting, organizing and analyzing data;
- construct, read and interpret displays of data such as pictographs and bar and circle graphs;
- make inferences and formulate hypotheses based on data;
- generate and analyze data obtained from such chance devices as spinners and dice;
- develop intuition about the probability of various real-world events; and
- make predictions that are based on intuitive and experimental probabilities.

Educational experiences in **Grades 5-8** will assure that students:

- make conjectures; design simulations and samplings; generate, collect, organize and analyze data; and represent the data in tables, charts, graphs and creative data displays;
- make inferences and formulate and evaluate hypotheses and conclusions based on data from tables, charts and graphs;
- describe the shape of the data using range, outliers, and measures of central tendency, including mean, median and mode;
- select and construct appropriate graphical representations and measures of central tendency for sets of data;
- determine the probability of simple and compound events;
- model probabilistic situations using both simulations and theoretical methods;

(continued)

Educational experiences in **Grades 9-12** will assure that students:

- estimate probabilities, predict outcomes and test hypotheses using statistical techniques;
- design a sampling experiment, interpret the data, and recognize the role of sampling in statistical claims;
- use the law of large numbers to interpret data from a sample of a particular size;
- select appropriate measures of central tendency, dispersion and correlation;
- design and conduct a statistical experiment and interpret its results;
- draw conclusions from data and identify fallacious arguments or claims;
- use scatterplots and curve-fitting techniques to interpolate and predict from data;

(continued)

CONTENT STANDARD 7: Probability and Statistics

K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades 5-8** will assure that students:

- make predictions that are based on experimental and theoretical probabilities; and
- draw conclusions from data and identify fallacious arguments or claims.

Educational experiences in **Grades 9-12** will assure that students:

- use relative frequency and probability to represent and solve problems involving uncertainty; and
- use simulations to estimate probabilities.

CONTENT STANDARD 8: Patterns

Students will discover, analyze, describe, extend and create patterns and use patterns to describe mathematical and other real-world phenomena.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- reproduce, extend, describe and create patterns and sequences using a variety of materials and attributes;
- use tables and graphs to display pattern data and explore a variety of ways to write rules that describe patterns and relationships; and
- develop and test generalizations based on observations of patterns and relationships.

Educational experiences in **Grades 5-8** will assure that students:

- describe, analyze, create and extend a wide variety of patterns;
- represent and describe mathematical relationships using tables, rules, simple equations and graphs;
- use patterns and relationships to identify the nth term in a sequence;
- construct and analyze tables and graphs to identify patterns and relationships; and
- use patterns and relationships to represent and solve problems.

Educational experiences in **Grades 9-12** will assure that students:

- identify, describe and generalize numerical and spatial patterns;
- identify, describe and generalize patterns from data and identify and analyze patterns of change; and
- predict and describe patterns produced by iterations, approximations, limits and fractals.

CONTENT STANDARD 9: Algebra and Functions

Students will use algebraic skills and concepts, including functions, to describe real-world phenomena symbolically and graphically, and to model quantitative change.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- represent numerical situations using variables, expressions, equations and inequalities; and
- write and solve number sentences that describe real-life situations.

Educational experiences in **Grades 5-8** will assure that students:

- use variables, expressions, equations and inequalities to describe and represent numerical situations;
- use concrete materials, tables, graphs, verbal rules and symbolic expressions to represent situations and patterns;
- analyze functional relationships to explain how a change in one quantity is associated with a change in another;
- construct and interpret data points on number lines and the coordinate plane; and
- solve simple linear equations using concrete, informal, graphical, tabular and formal methods.

Educational experiences in **Grades 9-12** will assure that students:

- model and solve problems that involve varying quantities with variables, expressions, equations, inequalities, absolute values, vectors and matrices;
- model real-world phenomena using polynomial, rational, trigonometric, logarithmic and exponential functions, noting restricted domains;
- analyze the effect of parametric changes on the graphs of functions;
- translate among and use tabular, symbolic and graphical representations of equations, inequalities and functions;
- develop, explain, use and analyze procedures for operating on algebraic expressions and matrices; and
- solve equations and inequalities using graphing calculators and computers as well as appropriate paper-and-pencil techniques.

CONTENT STANDARD 10: Discrete Mathematics

Students will use the concepts and processes of discrete mathematics to analyze and model a variety of real-world situations that involve recurring relationships, sequences, networks, combinations and permutations.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- classify data according to attributes;
- solve simple counting problems;
- use diagrams and models of simple networks that represent everyday situations;
- identify and investigate sequences; and
- follow, devise and describe practical algorithmic procedures.

Educational experiences in **Grades 5-8** will assure that students:

- use systemic listing and counting strategies, including simple combinations and permutations;
- use recursive processes, including iteration, to explore and solve problems; and
- devise, describe and test algorithms for solving optimization problems.

Educational experiences in **Grades 9-12** will assure that students:

- represent problem situations using finite graphs, matrices, sequences and recurrence relations;
- develop, analyze, describe, invent and test algorithms;
- define and use permutations, combinations, mathematical induction and recursion to solve combinatorial and algorithmic problems; and
- understand and use appropriate strategies to solve optimization problems.

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PHYSICAL EDUCATION CURRICULUM FRAMEWORK

Connecticut State Department of Education
Division of Teaching and Learning
March 1998

PHYSICAL EDUCATION

By the end of Grade 12, students will recognize the importance of and choose to participate regularly in physical activities designed to maintain and enhance healthy lifestyles.

PROGRAM GOALS

As a result of education in Grades K-12, students will:

- demonstrate the skills and knowledge necessary to participate in a variety of physical activities;
- make decisions to establish and maintain a healthy lifestyle to promote individual wellness throughout his or her entire life;
- recognize and understand the different effects of physical activity on one's mind and body; and
- develop interpersonal skills and exhibit positive character traits during physical activity.

K-12 CONTENT STANDARDS

1) **Physical Activity**	Students will become competent in a variety of, and proficient in a few, physical activities.
2) **Human Movement**	Students will understand and apply principles of human movement to the learning and development of motor skills.
3) **Fitness**	Students will use fitness concepts to achieve and maintain health-enhancing levels of physical fitness.
4) **Responsible Behavior**	Students will exhibit responsible personal and social behaviors in physical activity settings.
5) **Respect For Differences**	Students will exhibit an understanding of and respect for differences among people in physical activity settings.
6) **Benefits of Physical Activity**	Students will identify and understand how physical activity provides personal enjoyment, challenge, self-expression and social interaction.

CONTENT STANDARD 1: Physical Activity

Students will become competent in a variety of, and proficient in a few, physical activities.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- demonstrate developmentally mature form in the fundamental movement skills: locomotor (e.g., walk, jump, skip); nonlocomotor (e.g., bend, twist, swing); and selected manipulative skills (e.g., throwing, kicking, striking);
- demonstrate simple applications combining locomotor, nonlocomotor and selected manipulative skills to accomplish developmentally appropriate play and fitness activities;
- explore and adapt fundamental movement skills to meet a variety of challenges; and
- acquire basic skills to be applied to activities and games.

Educational experiences in **Grades 5-8** will assure that students:

- demonstrate developmentally mature applications combining locomotor, nonlocomotor and selected manipulative skills;
- demonstrate increasing competence in more advanced specialized skills;
- adapt and combine skills to meet the demands of increasingly complex situations (e.g., creating sequences and patterns of movement for gymnastics or dance); and
- participate in modified versions of a variety of movement forms (e.g., games, dance, gymnastics) and activities.

Educational experiences in **Grades 9-12** will assure that students:

- demonstrate competence in basic locomotor, nonlocomotor and manipulative skills in the execution of more complex skills;
- analyze complex skills, showing their connections with the fundamental movement skills;
- develop advanced skills in selected physical activities; and
- use basic movement skills to participate in a wide variety of leisure and work-related physical activities.

CONTENT STANDARD 2: Human Movement

Students will understand and apply principles of human movement to the learning and development of motor skills.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- apply movement concepts (e.g., body space, effort, relationships) to a variety of basic locomotor, nonlocomotor and manipulative skills;
- identify and apply critical elements and characteristics of mature performance (e.g., moving in opposition, follow through) to improve their individual skills;
- use understanding of the critical elements of basic and specialized movement skills to provide feedback to others; and
- recognize and apply the concepts of body space, effort and relationships in developing movement sequences and game strategies.

Educational experiences in **Grades 5-8** will assure that students:

- identify the critical elements of increasingly more complex movement and game forms;
- understand and apply increasingly more complex movement sequences and game strategies;
- identify and apply principles of practice and conditioning which enhance movement performance; and
- use information from a variety of sources to improve performance.

Educational experiences in **Grades 9-12** will assure that students:

- identify and apply characteristics of highly skilled performance to enable the development of movement competence and proficiency;
- understand and apply discipline-specific information to their own performances (e.g., biomechanical and physiological principles);
- understand and apply pertinent scientifically based information regarding movement performance;
- analyze and improve performance of themselves and others;
- understand various offensive and defensive strategies for game forms; and
- display an understanding of the connection between the purpose of movement and its effect on performance.

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CONTENT STANDARD 3: Fitness

Students will use fitness concepts to achieve and maintain a health-enhancing level of physical fitness.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- demonstrate several activities related to each component of health-related fitness (e.g., cardiovascular and respiratory efficiency, muscular strength and endurance, and flexibility) necessary for a healthy lifestyle;
- engage in sustained physical activity that causes increases in heart rate and breathing;
- recognize the personal physiological effects that accompany moderate to vigorous physical activity; and
- meet and/or show improvement in all components of the health-related fitness standards as defined by the Connecticut Health-Related Fitness Assessment.

Educational experiences in **Grades 5-8** will assure that students:

- assess physiological indicators (e.g., heart rate, body temperature, perspiration) of exercise during and after physical activity;
- understand and apply basic principles of training to improve physical fitness;
- maintain personal records of moderate to vigorous physical activity;
- develop personal goals and strategies for the improvement of selected fitness components necessary for a healthy lifestyle;
- participate in a variety of health-related fitness activities in and out of school; and
- meet and/or show improvement in all components of the health-related fitness standards as defined by the Connecticut Health-Related Fitness Assessment.

Educational experiences in **Grades 9-12** will assure that students:

- demonstrate the skills, knowledge and desire to monitor and adjust activity levels to meet personal fitness needs;
- use the results of fitness assessments to guide changes in personal programs of physical activity;
- design a personal health fitness program based on an accurately assessed fitness profile; and
- attain and maintain appropriate levels of cardiovascular and respiratory efficiency, muscular strength and endurance, flexibility and body composition necessary for a healthy lifestyle.

CONTENT STANDARD 4: Responsible Behavior

Students will exhibit responsible personal and social behaviors in physical activity settings.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- follow classroom rules, activity-specific rules, safety practices, procedures, etiquette and good sportsmanship in various physical activity settings;
- function independently and remain on-task for a prescribed period of time;
- work cooperatively and productively with partners or in small groups to complete assigned tasks; and
- develop skills needed for resolving conflicts.

Educational experiences in **Grades 5-8** will assure that students:

- identify the purpose for and participate in establishing and modifying rules, procedures and etiquette that reflect good sportsmanship and are safe and effective for specific activity situations;
- develop skills to participate productively in groups, in both cooperative and competitive activities;
- use time effectively to complete assigned tasks;
- solve problems and make choices by analyzing consequences and solutions; and
- apply appropriate skills for resolving conflicts peacefully.

Educational experiences in **Grades 9-12** will assure that students:

- apply safe practices, rules, procedures and etiquette in all physical activity settings;
- demonstrate leadership and cooperate, as appropriate, in order to accomplish goals;
- accept the decisions and respect the role of an official;
- anticipate and avoid potentially dangerous situations in physical activities;
- balance the goal of winning with other established goals of participation; and
- initiate responsible behaviors and function independently while being a positive influence on the behavior of others in physical activity settings.

CONTENT STANDARD 5: Respect For Differences

Students will exhibit an understanding of and respect for differences among people in physical activity settings.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- work cooperatively with peers of varying skill levels;
- experience differences and similarities among people of different backgrounds by participating in activities of national, cultural and ethnic origins; and
- recognize the contributions that individual differences (e.g., physical, gender, cultural/ethnic, social and emotional) add to group activities.

Educational experiences in **Grades 5-8** will assure that students:

- explore their own cultural/ethnic heritage through participation in physical activity;
- recognize the role of sport, games and dance in modern culture;
- demonstrate behaviors that are supportive and inclusive when meeting the individual needs of peers in physical activity settings; and
- participate with others, despite differences that may exist.

Educational experiences in **Grades 9-12** will assure that students:

- develop strategies for including persons from different backgrounds and abilities in leisure activities;
- adjust performance to the differences in individual physical, emotional and social characteristics; and
- recognize the influence physical activity can have in fostering an appreciation of cultural, ethnic, gender, physical and age differences.

CONTENT STANDARD 6: Benefits Of Physical Activity

Students will identify and understand how physical activity provides personal enjoyment, challenge, self-expression and social interaction.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- express feelings about participating in physical activity;
- experience enjoyment while participating in physical activity;
- understand that practicing activities increases skill competence;
- interact with peers while participating in group activities;
- use physical activity as a means of self-expression; and
- try new activities.

Educational experiences in **Grades 5-8** will assure that students:

- use physical activity as a positive opportunity for social and group interaction;
- recognize that meeting challenges in physical activities leads to self-actualization and recognition from peers;
- seek personally challenging experiences through physical activity; and
- participate in and enjoy physical activities outside the regular physical education class.

Educational experiences in **Grades 9-12** will assure that students:

- pursue new activities, both as individuals and with others;
- enjoy participating in a variety of physical activities;
- pursue lifelong physical activities that meet individual needs;
- recognize that physical activity can provide opportunities for positive social interaction;
- identify feelings that result from participating in physical activity both as individuals and with others; and
- display heightened confidence and broadened interest by selecting new physical activities.

SCIENCE CURRICULUM FRAMEWORK

Connecticut State Department of Education
Division of Teaching and Learning
March 1998

SCIENCE

By the end of Grade 12, students will know the basic concepts of, and the interrelationships among, biology, chemistry, physics, and earth (including ecology) and space sciences, and will be able to apply scientific skills, processes and methods of inquiry to real-world settings.

PROGRAM GOALS

As a result of education in Grades K-12, students will:

- understand and apply basic concepts, principles and theories of biology, chemistry, physics, and earth (including ecology) and space sciences and their interrelationships;
- recognize and participate in scientific endeavors which are evidence-based and use inquiry skills that lead to a greater understanding of the world;
- identify and solve problems through scientific exploration, including the formulation of hypotheses, design of experiments, use of technology, analysis of data and drawing of conclusions;
- select and properly use appropriate laboratory technology, equipment and materials, including measuring and sensing devices;
- understand and use, when appropriate, existing and emerging technologies which have an effect on society and our quality of life, including personal, academic and work environments;
- analyze the possibilities and limits of science and technology in order to make and defend decisions about societal issues; and
- understand that the way in which scientific knowledge is formulated is crucial to the validity of that knowledge.

K-12 CONTENT STANDARDS

1.	**The Nature Of Science**	Students will experience an inquiry-based learning environment in which they are free to ask questions, seek information and validate explanations in thoughtful and creative ways. Students also will understand that the processes, ways of knowing and conceptual foundations of science are interdependent and inextricably bound.
2.	**History Of Science**	Students will learn the evolution of scientific thought, how science has influenced culture and society, and how groups from many countries have contributed to the history of science.
3.	**Living Things And Their Environments**	Students will understand that all organisms in the biosphere are linked to each other and to their physical environments by the transfer and transformation of matter and energy.
4.	**Units Of Structure And Function**	Students will understand that living things share common materials and structures which perform basic life functions.
5.	**Relationships Of Structure And Function**	Students will understand the classification and physiology of the great diversity of organisms and identify relationships of structure and function.
6.	**Cycles Of Life**	Students will recognize patterns and products of genetics and evolution.
7.	**The Earth**	Students will understand the processes and forces that shape the structure and composition of the Earth.
8.	**Water**	Students will understand the water cycle, including energy transfers, the distribution and characteristics of water, and its influences on human activity.
9.	**The Earth's Atmosphere**	Students will understand the composition and structure of the atmosphere, including energy transfers, the nature of weather and climate, and the effect of the atmosphere on human activity.

10. The Universe	Students will understand that the Earth is a unique, dynamic member of the solar system, located in a galaxy within a changing universe.
11. Structure Of Matter	Students will know the characteristic properties of matter and the relationship of these properties to structure and composition.
12. Energy	Students will know that energy is conserved, transferred, transformed and appears in different forms.
13. Interaction Of Matter And Energy	Students will know that interactions between matter and energy can produce changes in a system, although the total quantities of matter and energy are unchanged.
14. Science And Technology	Students will understand the relationships among mathematics, science and technology, and the way they affect and are affected by society.

CONTENT STANDARD 1: The Nature Of Science

Students will experience an inquiry-based learning environment in which they are free to ask questions, seek information and validate explanations in thoughtful and creative ways. Students also will understand that the processes, ways of knowing and conceptual foundations of science are interdependent and inextricably bound.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K - 4** will assure that students:

- recognize (in Grades K-2) that when a scientific investigation is done in the same way in different places or when repeated many times, the investigation generally has the same results;
- raise questions (in Grades K-2) about their surroundings and seek answers by making careful observations and trying things out;
- recognize (in Grades K-2) that tools such as thermometers, magnifiers, rulers or balances often give more information than can be obtained by making observations without them;
- describe things as accurately as possible (in Grades K-2) because careful, complete observations enable people to compare their observations with those of others;

(continued)

Educational experiences in **Grades 5 - 8** will assure that students:

- conduct scientific investigations which generally involve the collection of relevant evidence, the use of logical reasoning and creativity in devising hypotheses and explanations to make sense of the evidence;
- identify and control variables in experiments;
- evaluate the strengths and weaknesses of claims, arguments or data;
- recognize that a variety of experimental designs and strategies can be developed to answer the same question;
- use appropriate technology as a tool in problem solving;
- accept the open-endedness of scientific inquiry and that scientific findings are not always definite or complete; and
- use scientific knowledge and ways of thinking in personal decision making.

Educational experiences in **Grades 9 - 12** will assure that students:

- gather and synthesize information concerning a problem;
- generate and revise hypotheses based upon empirical data and the requirements of logical reasoning;
- interpret the results of experimentation using statistical reasoning;
- critique scientific experiments or research by seeking out possible sources of bias in the design and analysis of data;
- suggest alternative ways of explaining data and criticize arguments in which data, explanations or conclusions are represented as the only ones worthy of consideration; and
- prepare and present oral and written scientific reports that communicate in a logical sequence the process, results and validity of scientific experiments and research.

CONTENT STANDARD 1: The Nature Of Science

K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades K - 4** will assure that students:

- use their senses (in Grades K-2), i.e., sight, taste, sound, touch, smell, to make observations about the natural world and discuss their findings;
- use open-minded and willing to modify opinions based upon evidence;
- design and conduct (both in groups and individually) simple experiments, keep accurate records of their findings, and communicate their findings to others using graphs, charts, maps, and oral and written reports;
- use evidence and logical reasoning as a basis for decision making;
- recognize that scientists' explanations about what happens in the world come partly from what they observe and partly from what they believe;

(continued)

CONTENT STANDARD 1: The Nature Of Science

K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades K - 4** will assure that students:

- recognize that sometimes scientists have different explanations for the same set of observations, which usually leads to additional observations to resolve the differences; and

- recognize that measuring instruments can be used to gather accurate information for making scientific comparisons of objects and events and for designing and constructing things that will work properly.

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CONTENT STANDARD 2: History Of Science

Students will learn the evolution of scientific thought, how science has influenced culture and society, and how groups from many countries have contributed to the history of science.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K - 4** will assure that students:

- recognize (in Grades K-2) that science is an adventure that people everywhere can take part in, as they have for many centuries;
- recognize (in Grades K-2) that scientists usually work in groups, but important discoveries often have been made by individuals;
- understand (in Grades K-2) that scientists study different things because they have different interests;
- recognize that, although men and women doing scientific inquiry have learned much about the objects, events and phenomena in nature, there is still much more to be understood;
- recognize that scientific ideas have changed over time;

(continued)

Educational experiences in **Grades 5 - 8** will assure that students:

- recognize important contributions to the advancement of science, mathematics and technology that have been made by men and women in different cultures at different times;
- understand that scientific discoveries are influenced by technological demands, competition, controversy, world events, personalities and societal issues;
- recognize that, throughout history, scientists and engineers have been considered valued contributors to society; and
- recognize that, throughout history, it has been difficult for scientific innovators to break through the preconceptions of their time to reach conclusions which today seem obvious.

Educational experiences in **Grades 9 - 12** will assure that students:

- recognize that many Western as well as non-Western cultures (e.g., Egyptian, Chinese, Hindu, Arabic, Mayan) have developed scientific ideas and solved human problems through technology;
- recognize that changes in science usually occur as small modifications in existing knowledge and result in incremental advances in our understanding of the world and our ability to meet human needs and aspirations;
- recognize that occasionally there are advances in science and technology that have important and long-lasting effects on science and society (e.g., the Copernican revolution; plate tectonics; biological evolution; germ theory; industrial revolution; technological revolution); and

(continued)

CONTENT STANDARD 2: History Of Science

K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades K - 4** will assure that students:

- understand that scientific investigations often raise questions which lead to new investigations;
- recognize that a knowledge of the history of science can help scientists decide what needs to be studied next; and
- understand that new technologies (a new instrument or device) allow scientists to conduct investigations that were not previously possible.

Educational experiences in **Grades 9 - 12** will assure that students:

- recognize that the study of scientific explanations throughout history demonstrates how scientific knowledge changes and evolves over time, building on earlier knowledge.

CONTENT STANDARD 3: Living Things And Their Environments

Students will understand that all organisms in the biosphere are linked to each other and to their physical environments by the transfer and transformation of matter and energy.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K - 4** will assure that students:

- describe (in Grades K-2) the basic needs of organisms (e.g., food, water, air, shelter and the need for sunlight by plants);
- discuss (in Grades K-2) how organisms depend on other organisms and their environments for basic needs;
- explain (in Grades K-2) how different organisms may interact within the ecosystem in a variety of ways;
- describe how a variety of organisms, such as producers, consumers and decomposers, obtain their basic needs (e.g., food, water, air);
- explain how organisms interact with other organisms in different environments (e.g., mutualism, parasitism, competition); and
- explain that some source of energy is needed for all organisms to stay alive and grow.

Educational experiences in **Grades 5 - 8** will assure that students:

- describe the roles of producers, consumers and decomposers in an ecosystem and provide specific examples of each;
- explain the need for sunlight and other abiotic factors, such as water and air, in an ecosystem;
- explain that while matter is recycled in an ecosystem, there is a one-way flow of energy in ecosystems;
- explain that the number and variety of organisms and populations are dependent on the resources and physical factors of their environments; and
- explain how both organisms and ecosystems can change if the physical conditions of an ecosystem change (e.g., a pond dries, a forest is destroyed by fire).

Educational experiences in **Grades 9 - 12** will assure that students:

- explain chemical bonds and metabolic processes, such as photosynthesis and cellular respiration, as the use of energy by organisms;
- explain that the distribution and abundance of organisms and populations in ecosystems are ultimately governed by the availability of matter and energy and the ability of the ecosystem to recycle organic materials;
- describe the movement of matter and energy through different levels of organizations of living systems and show how matter and energy are transformed and conserved;
- explain ways in which humans can minimize their impact on biomes; and
- explain the differences between the Earth's major biomes in terms of both climate and organisms.

CONTENT STANDARD 4: Units Of Structure And Function

Students will understand that living things share common materials and structures which perform basic life functions.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K - 4** will assure that students:

- list features (in Grades K-2) which distinguish living, nonliving and once-living things from one another;
- discuss (in Grades K-2) basic life functions, such as respiration, movement, elimination, responding to stimuli, taking in food, and reproduction;
- use instruments (in Grades K-2), such as magnifying glasses, to observe living and nonliving things more clearly;
- know that living things are composed of cells, which are the fundamental units of life;
- differentiate between unicellular and multicellular organisms;
- compare and group living and nonliving materials for similarities and differences;
- identify and describe basic cell structure; and

(continued)

Educational experiences in **Grades 5 - 8** will assure that students:

- identify similarities and differences that characterize different types of cells (e.g., plant, animal muscle, nerve, bone);
- recognize that basic life processes, such as photosynthesis and respiration, occur at the cellular level;
- recognize that tissues and organs in multicellular organisms are made of specialized groups of cells which work together to perform specific functions;
- understand that cells divide for growth, replacement, repair and reproduction; and
- understand that, while most living things are composed of cells, there are other things such as viruses that are difficult to identify as living or nonliving.

Educational experiences in **Grades 9 - 12** will assure that students:

- understand the role of the cell membrane in controlling materials entering and leaving the cell;
- understand that there are specialized structures in the cell used for energy capture and release;
- explain that the structure and function of cells depends on proteins, which are made of specific sequences of amino acids coded by the DNA, that are unique to each individual;
- know that cell behavior can be influenced by other cells, chemicals or other organisms;
- describe the processes and results of mitosis and meiosis;
- know that cells function in a narrow range of physical conditions, such as temperature and pH, to carry out life functions that help them maintain themselves (homeostasis);

(continued)

CONTENT STANDARD 4: Units Of Structure And Function

K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades K - 4** will assure that students:

- recognize that all living things, from simple cells to multicellular organisms, share basic characteristics and requirements.

Educational experiences in **Grades 9 - 12** will assure that students:

- understand that continual solar energy input and the fixing of solar energy by photosynthetic organisms is necessary for most life;
- recognize that while viruses lack the standard cellular structure, they have the genetic material to invade living cells; and
- understand that the matter making up living things is the same matter found in the physical world.

CONTENT STANDARD 5: Relationships Of Structure And Function

Students will understand the classification and physiology of the great diversity of organisms and identify relationships of structure and function.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K - 4** will assure that students:

- identify (in Grades K-2) the structures (e.g., stems, petals, legs, beaks) found in a variety of organisms;
- show (in Grades K-2) how living and nonliving things can be grouped using the characteristics they share;
- organize, compare and categorize (in Grades K-2) similarities and differences among organisms;
- describe (in Grades K-2) features that help organisms to survive in different environments (e.g., fur, coloration, thorns, webbed feet);
- employ different ways of classifying organisms into groups, using a variety of common features (e.g., presence of feathers, pointy vs. smooth leaves, whether they make their own food or get it from other sources);

(continued)

Educational experiences in **Grades 5 - 8** will assure that students:

- describe the major distinctions among the kingdoms of living things (e.g., prokaryotic/eukaryotic, nucleated/non-nucleated, heterotrophic/autotrophic);
- describe ways in which internal and external structures, organ systems and body plans contribute to organisms being able to carry out life functions or processes (e.g., reproduction, response to stimuli, production and/or digestion of food, and production of energy, circulation, excretion, homeostasis);
- describe and analyze ways in which scientists determine the relatedness of organisms;
- explain the effects of disease on the inability of organisms to carry out essential life functions;
- understand the complementary nature of structure and function; and

(continued)

Educational experiences in **Grades 9 - 12** will assure that students:

- understand that the present diversity of life is a result of natural selection and other evolutionary processes that have been at work for long periods of time;
- explain how representative organisms in different phyla are able to maintain a stable internal environment (homeostasis);
- describe why diversity in a species is important for its survival in a changing environment;
- explain how evolutionary relationships among organisms can be inferred from DNA and protein sequences;
- given a classification key, classify a given organism; and
- design a classification key which can be used by others to group organisms.

CONTENT STANDARD 5: Relationships Of Structure And Function

K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades K - 4** will assure that students:

- identify anatomical and behavioral adaptations which allow organisms to survive in specific environments;
- explain that the features of living things (e.g., trunks, tails, webbed feet) can be good indicators of their roles and places in an ecosystem;
- recognize that living things often have specialized sensory organs that help them gather information about their environments; and
- recognize that living things contain systems (such as digestion and respiration) that enable them to carry out basic life processes.

Educational experiences in **Grades 5 - 8** will assure that students:

- describe how different life functions (e.g., digestion, reproduction) are carried out by different organisms.

CONTENT STANDARD 6: Cycles Of Life

Students will recognize patterns and products of genetics and evolution.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K - 4** will assure that students:

- identify (in Grades K-2) external features of organisms that help them survive in different kinds of places;
- understand (in Grades K-2) that offspring tend to resemble their parents and that individuals of the same species have variations;
- recognize (in Grades K-2) that some organisms are alike in the way they look and in the things they do, and others are very different from one another;
- recognize (in Grades K-2) that many organisms once living on the Earth have disappeared;
- understand that organisms that are alive on the Earth today are both similar to and different from organisms that have disappeared;

(continued)

Educational experiences in **Grades 5 - 8** will assure that students:

- understand that each organism carries a set of instructions (genes) for specifying the components and functions of the organism;
- explain that differences between parents and offspring can accumulate in successive generations so that descendants are very different from their ancestors;
- recognize that individual organisms with certain traits are more likely than others to survive and have offspring;
- understand that the extinction of a species occurs when the environment changes and the species is not able to adapt to the changes;
- understand that the basic idea of biological evolution is that the Earth's present-day species developed from earlier species; and

(continued)

Educational experiences in **Grades 9 - 12** will assure that students:

- recognize that changes in the types of species on Earth may have occurred either gradually or through sudden bursts of major change (punctuated equilibrium);
- compare and contrast Mendel's laws (segregation and independent assortment) of heredity;
- understand how fossil, anatomical, molecular and other observable forms of evidence provide support for the theory of natural selection;
- explain that preservation of the Earth's biological diversity is critical to the future of human beings and other living things;
- describe scientific theories for the origin of life and the evidence to support the theories;
- explain the differences between human beings and other primates;

(continued)

CONTENT STANDARD 6: Cycles Of Life

K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades K - 4** will assure that students:

- understand that, when living things reproduce, they transfer genetic information from one generation to the next;
- recognize that individuals of the same species differ in their characteristics, and sometimes these differences give individuals an advantage in surviving and reproducing; and
- describe the life cycle of familiar organisms (e.g., frog, butterfly, cat, dandelion).

Educational experiences in **Grades 5 - 8** will assure that students:

- know that the many thousands of layers of sedimentary rock provide evidence for the history of the Earth and its changing life forms.

Educational experiences in **Grades 9 - 12** will assure that students:

- describe the biological history of human beings;
- compare and contrast different types of asexual and sexual reproduction;
- explain how new heritable characteristics can result from new combinations of existing genes or from mutations of genes in reproductive cells; and
- understand that modern molecular biology allows scientists to analyze, isolate and alter genes, and this ability helps scientists in the analysis and treatment of certain diseases.

CONTENT STANDARD 7: The Earth

Students will understand the processes and forces that shape the structure and composition of the Earth.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K - 4** will assure that students:

- recognize (in Grades K-2) that rocks come in many sizes and shapes, and many have interesting textures, colors and patterns;
- identify (in Grades K-2) preserved traces of organisms, such as footprints, shells or imprints of leaves left in soft mud, clay or plaster;
- recognize (in Grades K-2) that the Earth has different land forms (e.g., mountains, hills, plains, rivers, beaches);
- observe (in Grades K-2) changes that happen to many Earth materials and land forms;
- list ways (in Grades K-2) that people use the Earth's resources (e.g., burning fuels to cook food and warm their houses, using materials for building, growing plants in soil);

(continued)

Educational experiences in **Grades 5 - 8** will assure that students:

- describe how sediments of sand and smaller particles (sometimes containing the remains of organisms) are buried and are cemented together by dissolved minerals and compacted to form solid rock again;
- explain how rock buried deep enough may be reformed by pressure and heat into different kinds of rocks and minerals;
- recognize that some useful minerals are scarce and some exist in great quantities, but the ability to recover them is just as important as their abundance;
- recognize that the movement of heat and materials within the Earth causes earthquakes and volcanic eruptions;
- describe the formation and movement of glaciers;

(continued)

Educational experiences in **Grades 9 - 12** will assure that students:

- illustrate how the formation, weathering, sedimentation and reformation of rock constitute a continuing "rock cycle;"
- explain that the lithosphere consists of separate plates that ride on a denser, hot, gradually deformable layer of the Earth that releases energy and brings new materials to the Earth's surface;
- explain that plate tectonics is supported by geophysical, structural and paleontological evidence;
- describe how geological time can be determined using evidence from fossils, rock sequences and radiometric dating;
- interpret geological features within the community and state (e.g., road cuts, rivers, shorelines);
- explain interactions between the Earth's lithosphere, hydrosphere, atmosphere and biosphere; and

(continued)

CONTENT STANDARD 7: **The Earth**

K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades K - 4** will assure that students:

- classify rocks according to a number of attributes, such as color, texture, layering, particle size and reactions with weak acids (e.g., vinegar);
- describe how waves, wind, water and ice shape and reshape the Earth's land surface by eroding rock and soil in some areas and depositing them in other areas;
- describe how land forms can change as a result of geological activities such as volcanic eruptions, earthquakes, floods, etc;
- explain that soil is made partly from weathered rock, partly from plant and animal remains, and also contains living organisms;
- identify ways in which evidence of ancient life has been preserved;
- explain how the energy in fossil fuels, such as oil, coal and gas, comes indirectly from the sun; and
- recognize that some energy sources cost more and cause more pollution than others.

Educational experiences in **Grades 5 - 8** will assure that students:

- use maps (e.g., topographic, hydrographic, highway) to identify land features and their locations;
- recognize that some changes in the Earth's surface, such as earthquakes and volcanic eruptions, are abrupt, while other changes happen very slowly (e.g., uplift and wearing down of mountains); and
- explain how human activities (such as reducing the amount of forest cover, increasing the amount and variety of chemicals released into the atmosphere, and waste disposal) have altered the Earth's land, oceans and atmosphere.

Educational experiences in **Grades 9 - 12** will assure that students:

- analyze the costs, benefits, alternatives and consequences of natural resource exploration, development and consumption.

CONTENT STANDARD 8: Water

Students will understand the water cycle, including energy transfers, the distribution and characteristics of water, and its influences on human activity.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- recognize (in Grades K-2) that water can exist as a solid, liquid or gas and can be changed from one form to the other;
- recognize (in Grades K-2) that water on Earth exists in different forms (e.g., rain, snow, ice, surface water);
- recognize (in Grades K-2) that plants and animals need water to live;
- recognize that water can exist as a gas in the air and can reappear as a liquid, if cooled, or as a solid, if cooled below the freezing point of water;
- recognize that three-fourths of the Earth's surface is covered by water;
- identify major sources of water (e.g., oceans, glaciers, rivers, groundwater, atmosphere);

(continued)

Educational experiences in **Grades 5 - 8** will assure that students:

- recognize how the cycling of water in and out of the atmosphere plays an important role in determining climatic patterns and is responsible for constantly changing the phase and location of water;
- recognize that water falling to Earth flows over the surface as runoff and collects in ocean basins, rivers, lakes, icecaps and underground; and
- recognize that water stored underground (subsurface) and water stored above ground (surface) form a continuum, each supplying water to the other.

Educational experiences in **Grades 9 - 12** will assure that students:

- recognize that the ocean is a complex system of important chemicals which cycle through other Earth systems over various periods of time;
- recognize that fresh water is limited in supply and can be depleted or polluted, becoming unavailable or unsuitable for life;
- explain interactions between water and other Earth systems (e.g., the biosphere, lithosphere and atmosphere);
- recognize that water is an erosional force that can rapidly and slowly change the landscape;
- describe how the oceans absorb and release heat energy that moderates the Earth's climate; and
- describe how the physical and chemical properties of water affect the environment and life.

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CONTENT STANDARD 8: Water

K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades K-4** will assure that students:

- recognize the importance and uses of water (e.g., drinking, washing, irrigating); and
- recognize that water is essential to life.

CONTENT STANDARD 9: The Earth's Atmosphere

Students will understand the composition and structure of the atmosphere, including energy transfers, the nature of weather and climate, and the effect of the atmosphere on human activity.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K - 4** will assure that students:

- recognize (in Grades K-2) that air takes up space; air is colorless, tasteless and odorless; and you can only feel or hear air when it moves;
- know (in Grades K-2) that air contains water, that clouds are made of water and ice, and that precipitation comes from clouds;
- identify (in Grades K-2) simple weather instruments, such as thermometers and wind vanes;
- know (in Grades K-2) what seasons exist in New England;
- recognize (in Grades K-2) that the sun affects the weather on the Earth;
- know that the Earth is covered by an atmosphere that is divided into layers;
- recognize that air is a mixture of gases and can be compressed;

(continued)

Educational experiences in **Grades 5 - 8** will assure that students:

- describe air as a mixture of gases, including water vapor and other liquid and solid particles;
- recognize that air exerts pressure and expands and contracts in relation to temperature;
- explain wind as a function of the unequal heating of the Earth's surface;
- know that water changes form as a function of energy transfer;
- infer that water vapor condenses out of cooling air;
- create simple weather instruments to measure air pressure and humidity;
- identify sources of thunderstorms, tornadoes, hurricanes and winter storms, and describe their impact on human activities;

(continued)

Educational experiences in **Grades 9 - 12** will assure that students:

- describe heat and energy transfer as they are related to radiation, conduction and convection/advection;
- understand that, as water condenses, evaporates, melts or freezes, this heat energy transfer impacts weather phenomena;
- recognize and understand why rising air expands and decreases in temperature, while sinking air compresses and increases in temperature, and that this phenomenon has an impact on local weather and global climates;
- describe fronts as boundaries between air masses and recognize their association with different weather patterns;
- explain the patterns and distributions of different climates as a function of the Earth's physical features (e.g., oceans and mountains) and latitude;

(continued)

CONTENT STANDARD 9: The Earth's Atmosphere

K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades K - 4** will assure that students:

- recognize that there are different forms of precipitation and identify these forms;
- compare forms of hazardous weather (including hurricanes, high winds, tornadoes, floods, blizzards, freezing rain and droughts) and its effects on humans and the land;
- identify instruments used by meteorologists and use simple weather instruments to measure air temperature and wind speed and direction;
- understand that there are patterns to weather as well as patterns to seasons;
- recognize that the Earth has different climates (e.g., arid, tropical, temperate and arctic); and
- describe the sun as the source of energy that causes weather to change.

Educational experiences in **Grades 5 - 8** will assure that students:

- infer that our atmosphere is dynamic and has patterns of weather systems;
- recognize that high pressure areas are usually associated with clear, dry weather and low pressure areas are often associated with precipitation; and
- describe and explain the reasons for the distribution of climates around the world.

Educational experiences in **Grades 9 - 12** will assure that students:

- explain how the inclination of the Earth's axis affects the seasons, amount of daylight, and the altitude of the sun in the sky;
- explain the impact on human activities of global phenomena, such as El Niño, global warming and the depletion of ozone in the atmosphere;
- discuss cyclone, hurricane, thunderstorm and tornado formation as both weather phenomena and vehicles for the transfer of heat energy; and
- create weather forecasts from data collected from various sources, including classroom instruments, television, newspapers, NOAA radio and information from sources via computer and modem.

CONTENT STANDARD 10: The Universe

Students will understand that the Earth is a unique, dynamic member of the solar system, located in a galaxy within a changing universe.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K - 4** will assure that students:

- recognize (in Grades K-2) that there are more stars in the sky than anyone can easily count, they are randomly distributed, and they vary in brightness or color;
- understand (in Grades K-2) that the sun can be seen only in the daytime, but the moon can be seen sometimes at night and sometimes during the day;
- know (in Grades K-2) that the sun, moon and stars all appear to move slowly across the sky;
- describe (in Grades K-2) how the moon looks a little different every day, but looks the same about every four weeks;
- describe (in Grades K-2) how the astronauts use spacecraft for travel and how some astronauts have even traveled to the moon and back;

(continued)

Educational experiences in **Grades 5 - 8** will assure that students:

- understand that, to people living on the Earth, the 24-hour period of rotation of the Earth makes it seem as though the sun, moon, planets and stars are orbiting the Earth once a day;
- recognize that the sun is a medium-sized star located near the edge of a disk-shaped galaxy of stars, that the universe contains many millions of galaxies, and that each galaxy contains many billions of stars;
- describe the solar system as consisting of nine planets, different in size, composition and surface features, which all revolve around the sun in elliptical orbits;
- understand that the moon's orbit around the Earth changes how much of the lighted portion of the moon can be seen from the Earth;

(continued)

Educational experiences in **Grades 9 - 12** will assure that students:

- understand that the stars differ from each other in size, temperature and age, but they appear to be made up of the same elements that are found on the Earth and appear to behave according to the same physical principles;
- state that on the basis of scientific evidence, the universe is expanding and is estimated to be well over 15 billion years old;
- describe how increasingly sophisticated technology is used to learn about the universe (e.g., visual, radio and X-ray telescopes);
- understand that mathematical models and computer simulations are used in studying evidence from many sources in order to form a more comprehensive scientific account of the universe;

(continued)

CONTENT STANDARD 10: The Universe

K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades K - 4** will assure that students:

- know that the patterns of stars in the sky appear to stay the same, although they appear to move across the sky nightly, and different star patterns (constellations) can be seen in different seasons;
- understand that telescopes magnify the appearance of the moon, the planets and stars;
- know that the Earth is one of several planets that orbit the sun, and that the moon orbits the Earth;
- know that stars are like the sun, some being smaller and some larger, but they are at such great distances that they look like points of light;
- recognize that the rotation of the Earth on its axis every 24 hours produces the night-and-day cycle; and
- recognize that information and photographs from orbiting spacecraft have added to our knowledge of the Earth and the universe.

Educational experiences in **Grades 5 - 8** will assure that students:

- realize that the planets change their positions against the background of stars;
- recognize that the mutual gravitational attraction of the Earth, moon and sun produces the ocean's tides; and
- understand that many artificial satellites now orbit the Earth and are used for a variety of purposes.

Educational experiences in **Grades 9 - 12** will assure that students:

- recognize that orbiting instruments, such as the Hubble telescope, provide information about the universe that could not be gathered from the Earth's surface;
- recognize that the solar system is part of a constantly changing universe in which stars are born, change and die; and
- understand that light from a star takes a very long time to reach the Earth and is actually a representation of its past location.

CONTENT STANDARD 11: Structure Of Matter

Students will know the characteristic properties of matter and the relationship of these properties to structure and composition.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K - 4** will assure that students:

- describe (in Grades K-2) materials by their physical properties (e.g., color, size, shape, texture, flexibility);
- organize (in Grades K-2) objects in terms of the materials of which they are made (e.g., paper, cloth, clay);
- change the properties (in Grades K-2) of some materials (e.g., dissolve salt, evaporate water) and recognize that not all materials respond in the same ways;
- separate and classify objects (in Grades K-2) using one or more of the properties of the object;
- identify physical changes as changes in state or form;
- recognize that a chemical change occurs when substances interact to form new materials with properties that differ from those of the original substances;

(continued)

Educational experiences in **Grades 5 - 8** will assure that students:

- use physical and chemical properties to classify and describe matter in terms of elements, compounds, mixtures, atoms and molecules;
- show that, while the quantity of matter is conserved, changes in matter can result in the formation of new materials;
- demonstrate that the kinetic molecular model of matter is useful in describing the structure and properties of solids, liquids and gases;
- recognize that all matter is made up atoms which are too small to be seen directly through the microscope, but that indirect evidence can be used to construct a useful model of the atom;

(continued)

Educational experiences in **Grades 9 - 12** will assure that students:

- describe the nature of atoms and how atoms combine to form molecules;
- explain how the chemical and physical properties of substances are related to their atomic and molecular structures;
- use the Periodic Table to predict common properties of elements;
- use chemical formulas and equations to obtain and communicate information about chemical changes;
- recognize that the ability of a reaction to occur and the extent to which it proceeds depends on the relative stability of the reactants compared to the products and the conditions under which the reaction occurs; and
- understand and apply mathematical concepts, including dimensional analysis, to explore and describe chemical changes.

CONTENT STANDARD 11: Structure Of Matter

K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades K - 4** will assure that students:

- recognize that materials may be composed of parts too small to be seen;
- create and separate mixtures;
- gather data to show that the mass of a whole object is equal to the sum of the masses of its parts;
- recognize that many substances can exist in different states (solid, liquid and gaseous) and some common substances, such as water, can be changed from one state to another by adding or removing heat from the material; and
- demonstrate that when substances change from one state to another, such as from a liquid to a solid, the total mass remains unchanged.

Educational experiences in **Grades 5 - 8** will assure that students:

- recognize that atoms and molecules are perpetually in motion and that as the temperature of a substance increases, the average energy of motion also increases;
- show how features such as the temperature and acidity of a solution can influence reaction rates;
- give examples which show that changes in pressure, temperature or volume of a gas sample result in predictable changes in either or both of the other properties; and
- demonstrate that some properties (such as mass and volume) depend on the amount of material and some properties (such as density, melting point and boiling point) are independent of the amount of material.

CONTENT STANDARD 12: Energy

Students will know that energy is conserved, transferred, transformed, and appears in different forms.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K - 4** will assure that students:

- recognize (in Grades K-2) forms of energy (e.g., heat, light, sound) used every day;
- recognize (in Grades K-2) that visible light contains the colors of the rainbow;
- demonstrate (in Grades K-2) that sound can be produced by vibrating objects;
- recognize (in Grades K-2) that energy can be used to bring about changes in matter (e.g., melt an ice cube);
- demonstrate (in Grades K-2) that sound has different properties (e.g., high-low, loud-soft);
- understand (in Grades K-2) that the sun's rays warm objects on the Earth;
- describe various forms of energy, such as light, heat, electrical and chemical, and cite examples of the change of one form into another;

(continued)

Educational experiences in **Grades 5 - 8** will assure that students:

- recognize that energy can neither be created nor destroyed;
- identify energy transformations that occur in various systems (e.g., biological, mechanical, geological) and recognize that heat is a by product of energy transformations;
- demonstrate that heat can be transferred by convection, conduction and radiation;
- recognize that energy exists in many forms (e.g., light, heat, chemical, electrical and mechanical) and that energy can be transformed from one form to another;
- understand that all physical changes, including changes of state, require energy;
- recognize that the sun produces energy in a range of wavelengths within the electromagnetic spectrum; and

(continued)

Educational experiences in **Grades 9 - 12** will assure that students:

- classify various forms of energy as either kinetic or potential;
- recognize that heat energy is related to the disordered motion of atoms or molecules;
- understand that the total amount of disorder in the universe is increasing;
- explain that, although energy changes into different forms within a closed system, the total amount of energy remains unchanged, while the amount of useful energy is decreased;
- describe the nature of different types of waves, how they are produced, and how they transfer energy;
- understand that every object exerts a gravitational force on every other object; and
- interpret the physical characteristics of sound, (including pitch and loudness) in terms of wave theory.

CONTENT STANDARD 12: Energy

K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades K - 4** will assure that students:

- recognize that sounds can be varied by making changes to the objects emitting the sound (e.g., tautness of a string, length of a tube, medium through which the sound travels);
- recognize that some materials conduct heat better than others, and that poor conductors (insulators) can reduce heat loss;
- give examples of ways energy consumption can be reduced;
- recognize that primary colors of light can be mixed to create other colors;
- demonstrate that light has a number of properties, such as color, brightness and direction of travel; and
- demonstrate that light can be absorbed, reflected, transmitted and bent using mirrors and lenses.

Educational experiences in **Grades 5 - 8** will assure that students:

- compare and contrast different forms of energy in terms of their wavelengths on the electromagnetic spectrum.

CONTENT STANDARD 13: Interaction Of Matter And Energy

Students will know that interactions between matter and energy can produce changes in a system, although the total quantities of matter and energy are unchanged.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K - 4** will assure that students:

- demonstrate (in Grades K-2) that the position or motion of objects can be changed by pushing or pulling;
- recognize (in Grades K-2) that the motion of objects can be compared by describing the general direction or type of motion (straight line, zigzag, vibrating or circular) and the relative speed;
- demonstrate (in Grades K-2) that magnets can move some objects without touching them;
- recognize (in Grades K-2) that magnets attract or repel each other and attract a few kinds of metals;
- demonstrate (in Grades K-2) that objects fall to the ground unless supported;
- give examples of some forces (e.g., magnetism, gravity) that can change the motion of objects without touching them;

(continued)

Educational experiences in **Grades 5 - 8** will assure that students:

- identify evidence that waves (e.g., light, sound, radiant) can transfer energy between two points;
- demonstrate that objects have inertia and momentum;
- recognize that the motion of one object can be described by measuring its position, direction and speed relative to another object;
- illustrate that changes in the speed and direction of an object are due to forces which have magnitude and direction;
- recognize that electric currents and magnets can exert a force on each other; and
- understand that a complete circuit is necessary in order for electric current to flow.

Educational experiences in **Grades 9 - 12** will assure that students:

- explain how the interactions between various energy forms and matter can produce physical, chemical and nuclear transformations;
- observe, measure and represent mathematically the changes in the various energy forms taking place during the physical and chemical transformation of substances;
- describe how energy changes can be related to structural processes and modifications at the atomic and molecular levels;
- recognize that energy changes in atoms and molecules occur in fixed increments;
- recognize that energy and new particles are released when the nuclei of heavy atoms (e.g., uranium, plutonium) split;

(continued)

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CONTENT STANDARD 13: Interaction Of Matter And Energy

K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades K - 4** will assure that students:

- recognize that the motion of an object can be described as a change in the position of the object with respect to another object or background; and
- demonstrate that magnetic and electrostatic forces may both attract and repel.

Educational experiences in **Grades 9 - 12** will assure that students:

- explain how radiation and matter interact in terms of the absorption and emission of energy by individual atoms, molecules and their aggregates;
- recognize that waves may interact with the materials they enter;
- recognize the types of radiation (e.g., light, radio, microwave, X-ray) which comprise the electromagnetic spectrum;
- understand the differences in the flow of electrical energy in conductors, semi-conductors and insulators; and
- recognize that accelerating electrical charges produce electromagnetic waves.

CONTENT STANDARD 14: Science And Technology

Students will understand the relationships among mathematics, science and technology and the way they affect and are affected by society.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K - 4** will assure that students:

- understand (in Grades K-2) that people create tools (e.g., shovel, hand lens, pencil), to help them to do things better and to do some things that otherwise could not be done at all;
- identify (in Grades K-2) the contributions of science and technology to individuals and society;
- recognize (in Grades K-2) that simple machines can be used to help people do work;
- describe the role and use of technological devices in everyday life (e.g., microwave ovens, telephones, VCRs);
- recognize possible negative consequences to people, other organisms or the environment, of technological solutions to specific problems;

(continued)

Educational experiences in **Grades 5 - 8** will assure that students:

- investigate and describe human uses of renewable and nonrenewable resources (e.g., forests, fossil fuels);
- explain interrelationships between science and technology (e.g., building a bridge, designing a better running shoe);
- describe how the use of technology can contribute to the solution of an individual or community problem (e.g., using oxygenated fuels to help reduce air pollution);
- recognize that science and technology cannot solve every problem faced by society;
- describe how people use science and technology in their professions;
- identify and analyze ways in which advances in science and technology have affected each other and society;

(continued)

Educational experiences in **Grades 9 - 12** will assure that students:

- analyze benefits and limit costs and consequences involved in using technology or resources (e.g., X-rays, agricultural chemicals, natural gas reserves);
- analyze how the introduction of new technology has affected or could affect human activity (e.g., invention of the telescope, applications of modern telecommunications and bioengineering);
- recognize that technological innovations (e.g., the automobile) may produce unanticipated problems of their own;
- apply their knowledge and understanding of chemical and physical interactions to explain present and anticipated technologies (e.g., lasers, ultrasound, superconducting materials, photocopy machines);

(continued)

CONTENT STANDARD 14: Science And Technology

K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades K - 4** will assure that students:

- understand that technology enables scientists and others to observe the world, e.g., things that are too small or too far away to be seen without technology, the motion of objects that are moving very rapidly or are hardly moving at all;
- identify alternative strategies to solve existing and potential environmental or technological problems;
- describe activities in which students can participate that can benefit their communities (e.g., recycling, water conservation);
- recognize that technology extends the ability of people to change the world (e.g., to cut, shape or put together materials; to move things from one place to another; to extend the reach of hands, voices, senses and minds);
- identify careers that use science and technology; and
- understand that there are different types of simple machines.

Educational experiences in **Grades 5 - 8** will assure that students:

- recognize that issues related to science, technology and society often are complex and involve risk/benefit trade-offs;
- understand that scientific advances may be misused and developed into technologies that have negative consequences;
- identify technological advances that are reported in the media; and
- understand that engineers, architects and others who engage in design and technology use scientific knowledge to solve practical problems.

Educational experiences in **Grades 9 - 12** will assure that students:

- recognize that science and technology often develop faster than society can comprehend their ethical implications;
- explore the scientific and technological aspects of contemporary problems (e.g., issues related to nutrition, air quality, natural resources);
- understand that science strives to understand the natural world and seeks explanations for natural phenomena, while technology seeks solutions to human problems and needs;
- understand that science, mathematics and technology are interdependent human endeavors with strengths and limitations; and
- recognize that technological problems often create a demand for new scientific knowledge, while new technologies make it possible for scientists to extend their research or to undertake entirely new lines of research.

SOCIAL STUDIES CURRICULUM FRAMEWORK

Connecticut State Department of Education
Division of Teaching and Learning
May 1998

SOCIAL STUDIES

By the end of Grade 12, students will gain a knowledge of history, civics and government, geography and economics; understand the interaction between and among history, the social sciences and humanities; and apply that knowledge and understanding as responsible citizens.

PROGRAM GOALS

As a result of education in Grades K-12, students will:

- demonstrate knowledge of the structure of United States and world history to understand life and events in the past and how they relate to one's own life experience;
- analyze the historical roots and the current complexity of relations among nations in an increasingly interdependent world;
- demonstrate an understanding of the concept of culture and how different perspectives emerge from different cultures;
- apply geographic knowledge, skills and concepts to understand human behavior in relation to the physical and cultural environment;
- describe the relationships among the individual, the groups and the institutions which exist in any society and culture;
- demonstrate knowledge of how people create rules and laws to regulate the dynamic relationships of individual rights and societal needs;
- apply concepts from the study of history, culture, economics and government to the understanding of the relationships among science, technology and society;
- describe how people organize systems for the production, distribution and consumption of goods and services;
- demonstrate an understanding of how ideals, principles and practices of citizenship have emerged over time and across cultures; and
- describe how the study of individual development and identity contributes to the understanding of human behavior.

K-12 CONTENT STANDARDS

History

Through the study of United States and world history:

1) Historical Thinking	Students will develop historical thinking skills, including chronological thinking and recognizing change over time; contextualizing, comprehending and analyzing historical literature; researching historical sources; understanding the concept of historical causation; understanding competing narratives and interpretation; and constructing narratives and interpretation.
2) Local, United States and World History	Students will use historical thinking skills to develop an understanding of the major historical periods, issues and trends in United States history, world history, and Connecticut and local history.
3) Historical Themes	Students will apply their understanding of historical periods, issues and trends to examine such historical themes as ideals, beliefs and institutions; conflict and conflict resolution; human movement and interaction; and science and technology in order to understand how the world came to be the way it is.
4) Applying History	Students will recognize the **continuing** importance of historical thinking and historical knowledge in their own lives and in the world in which they live.

Civics and Government

Through the study of civics and government:

5) United States Constitution and Government	Students will apply knowledge of the U. S. Constitution, how the U. S. system of government works and how the rule of law and the value of liberty and equality have an impact on individual, local, state and national decisions.
6) Rights and Responsibilities of Citizens	Students will demonstrate knowledge of the rights and responsibilities of citizens to participate in and shape public policy, and contribute to the maintenance of our democratic way of life.

7) **Political Systems**	Students will explain that political systems emanate from the need of humans for order, leading to compromise and the establishment of authority.
8) **International Relations**	Students will demonstrate an understanding of how the major elements of international relations and world affairs affect their lives and the security and well-being of their community, state and nation.

Geography

Through the study of geography:

9) **Places and Regions**	Students will use spatial perspective to identify and analyze the significance of physical and cultural characteristics of places and world regions.
10) **Physical Systems**	Students will use spatial perspective to explain the physical processes that shape the Earth's surface and its ecosystems.
11) **Human Systems**	Students will interpret spatial patterns of human migration, economic activities and political units in Connecticut, the nation and the world.
12) **Human and Environmental Interaction**	Students will use geographic tools and technology to explain the interactions of humans and the larger environment, and the evolving consequences of those interactions.

Economics

Through the study of economics:

13) **Limited Resources**	Students will demonstrate that because human, natural and capital resources are limited, individuals, households, businesses and governments must make choices.
14) **Economic Systems**	Students will demonstrate that various economic systems coexist, and that economic decisions are made by individuals and/or governments, influenced by markets, cultural traditions, individuals and governments in the allocation of goods and services.
15) **Economic Interdependence**	Students will demonstrate how the exchange of goods and services by individuals, groups and nations create economic interdependence and change.

CONTENT STANDARD 1: Historical Thinking

Students will develop historical thinking skills, including chronological thinking and recognizing change over time; contextualizing, comprehending and analyzing historical literature; researching historical sources; understanding the concept of historical causation; understanding competing narratives and interpretation; and constructing narratives and interpretation.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- gather historical data from multiple sources;
- engage in reading challenging primary and secondary historical source materials, some of which is contradictory and requires questioning of validity;
- describe sources of historical information;
- identify the main idea in a source of historical information;
- identify ways different cultures record their histories, compare past and present situations and events, and present findings in appropriate oral, written and visual ways;
- create timelines which sequence events and peoples, using days, weeks, months, years, decades and centuries; and

(continued)

Educational experiences in **Grades 5-8** will assure that students:

- formulate historical questions based on primary and secondary sources, including documents, eyewitness accounts, letters and diaries, artifacts, real or simulated historical sites, charts, graphs, diagrams and written texts;
- gather information from multiple sources, including archives or electronic databases, to have experience with historical sources and to appreciate the need for multiple perspectives;
- distinguish between primary and secondary sources;
- interpret data in historical maps, photographs, art works and other artifacts;

(continued)

Educational experiences in **Grades 9-12** will assure that students:

- formulate historical questions and hypotheses from multiple perspectives, using multiple sources;
- gather, analyze and reconcile historical information, including contradictory data, from primary and secondary sources to support or reject hypotheses;
- interpret oral traditions and legends as "histories";
- evaluate data within the historical, social, political and economic context in which it was created, testing its credibility and evaluating its bias;
- describe the multiple intersecting causes of events; and
- use primary source documents to analyze multiple perspectives.

CONTENT STANDARD 1: Historical Thinking

K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades K-4** will assure that students:

- write short narratives and statements of historical ideas and create other appropriate presentations from investigations of source materials.

Educational experiences in **Grades 5-8** will assure that students:

- examine data to determine the adequacy and sufficiency of evidence, point of view, historical context, bias, distortion and propaganda, and to distinguish fact from opinion;
- analyze data in order to see persons and events in their historical context, understand causal factors and appreciate change over time;
- examine current concepts, issues, events and themes from historical perspectives and identify principle conflicting ideas between competing narratives or interpretations of historical events; and
- develop written narratives and short interpretative essays, as well as other appropriate presentations from investigations of source materials.

CONTENT STANDARD 2: Local, United States And World History

Students will use historical thinking skills to develop an understanding of the major historical periods, issues and trends in United States history, world history, and Connecticut and local history.

Educational experiences in **Grades K-12** will assure that students use historical thinking skills to study the following periodization with escalating scale of breadth and depth:

United States, Connecticut and Local History

- first peoples [10,000 BCE to 1500 CE];
- encounters of peoples from the Americas, Western Europe and Western Africa [1440s to 1763];
- European colonization and settlement [1492-1763];
- revolution and the new nation [1754-1820s];
- expansion and reform [1801-1861];
- civil war and reconstruction [1850-1877];
- development of the industrial United States [1870-1900];
- emergence of modern America [1890-1930];
- the Great Depression and World War II [1929-1945];
- Postwar United States [1945 to early 1970s]; and
- contemporary United States [1968 to the present].

World History

- the beginnings of human society;
- early civilizations and the emergence of the pastoral peoples [4000 BCE - 1000 BCE];
- classical traditions, major religions and the giant empires [1000 BCE - 300 CE];
- expanding zones of exchange and encounter [300 - 1000];
- intensified hemispheric interactions [1000 - 1500];
- emergence of the first global age [1450- 1770];

- an age of European prominence and revolutions [1750-1914];
- a half century of crisis and achievement [1900-1945]; and
- the 20th century since 1945 – promises, paradoxes and challenges.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:	Educational experiences in **Grades 5-8** will assure that students:	Educational experiences in **Grades 9-12** will assure that students:
• demonstrate a familiarity with peoples, events and places from a broad spectrum of human experience through selected study from historical periods and from the various regions (e.g., East Asia, Europe, the Americas, Africa, South Asia, West Asia);	• demonstrate an in-depth understanding of major events and trends of United States history (e.g., the American Revolution, the Civil War, industrialization, the Great Depression, the cold war);	• demonstrate an understanding of major events and trends in world history, United States and local history from all historical periods and from all the regions of the world;
• locate the events, peoples and places they have studied in time and place (e.g., on a time line and map) relative to their own location;	• demonstrate an in-depth understanding of selected events representing major trends of world history (e.g., emergence of new centers of agrarian society in the 3rd and 2nd millennia BCE, the Black Death, the Columbian voyages, the French Revolution, World War II);	• locate the events, peoples and places they have studied in time and place (e.g., on a time line and map) relative to their own location; and
• demonstrate knowledge of major trends in state and local history, including history of original peoples, early settlements and selected changes over the past two centuries; and	• demonstrate an in-depth understanding of major events and trends in local history (e.g., the Pequot war, establishment of self-government, disestablishment of the Puritan church, industrialization, waves of in-and-out migration, suburbanization, racial tensions);	• explain relationships among the events and trends studied in local, national and world history.
• place the history of their own families in the context of local, state, national and world history.		

(continued)

K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades 5-8** will assure that students:

- locate the events, peoples and places they have studied in time and place (e.g., on a time line and map) relative to their own location; and
- explain the relationships among the events and trends studied in local, state, national and world history.

CONTENT STANDARD 3: Historical Themes

Students will apply their understanding of historical periods, issues and trends to examine such historical themes as ideals, beliefs and institutions; conflict and conflict resolution; human movement and interaction; and science and technology in order to understand how the world came to be the way it is.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- recognize that people develop traditions that transmit their beliefs and ideals;
- examine family life and cultures of different peoples at different times in history;
- explain different types of conflict, different ways in which conflicts have been resolved, and different ways that conflicts and their resolutions have affected people;
- describe and explain some of the reasons people have moved and relate these reasons to some historic movements of large groups of people;
- describe some goods, products and ideas which were exchanged as the result of movement;

(continued)

Educational experiences in **Grades 5-8** will assure that students:

- explain the origins of American religious diversity, showing knowledge of some of the beliefs of native Americans and migrants to the new world and give examples of ways those beliefs have changed over time;
- explain how roles and status of people have differed and changed throughout history based on gender, age, class, racial and ethnic identity, wealth, and/or social position;
- describe the emergence of select governmental systems, principles and institutions;
- describe some of the more common forms of government found in the past, giving examples of societies that have practiced them (e.g., monarchy, oligarchy, clan/tribal, autocracy, dynasty, theocracy, republic, democracy);

(continued)

Educational experiences in **Grades 9-12** will assure that students:

- describe basic tenets of the world religions that have acted as major forces throughout history, including, but not limited to, Buddhism, Christianity, Hinduism, Islam and Judaism, and indigenous popular religions;
- give examples of the visual arts, dance, music, theater and architecture of the major periods of history and explain what they indicate about the values and beliefs of various societies;
- demonstrate an understanding of the ways that cultural encounters and the interaction of people of different cultures in pre-modern as well as modern times have shaped new identities and ways of life;
- identify various parties and analyze their interest in conflicts from selected historical periods;

(continued)

CONTENT STANDARD 3: Historical Themes

K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades K-4** will assure that students:

- describe the impact of various technological developments on the local community and on the nation; and
- identify individual achievements of scientists and inventors from many cultures and different historical periods and describe their achievements.

Educational experiences in **Grades 5-8** will assure that students:

- describe examples of how societies throughout history have used various forms of visual arts, dance, theater, myths, literature and music to express their beliefs, sense of identity and philosophical ideas;
- explain reasons for conflict and the ways conflicts have been resolved;
- identify and analyze the various causes and effects of movements of groups of people;
- explain the significance of the achievements of selected individual scientists and inventors from around the world and from various periods;
- explain how economic factors influenced historical events in the United States and other regions of the world; and
- describe, explain and analyze the impact of the exchange of ideas on societies, politics, religion, etc.

Educational experiences in **Grades 9-12** will assure that students:

- describe, explain and analyze political, economic and social consequences that came about as the resolution of a conflict;
- demonstrate an understanding of the ways race, gender, ethnicity and class issues have affected individuals and societies in the past;
- analyze the causes and consequences of major technological turning points in history, e.g., their effects on people, societies and economies;
- explain how the use and expansion of trade have connected and affected the history of a global economy;
- evaluate the economic and technological impact of the exchange of goods on societies throughout history; and
- explain the multiple forces and developments (cultural, political, economic and scientific) that have helped to connect the peoples of the world.

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CONTENT STANDARD 4: Applying History

*Students will recognize the **continuing** importance of historical thinking and historical knowledge in their own lives and in the world in which they live.*

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:	Educational experiences in **Grades 5-8** will assure that students:	Educational experiences in **Grades 9-12** will assure that students:
• exhibit curiosity and pose questions about the past when presented with artifacts, records or other evidence of the past;	• initiate questions and hypotheses about historic events being studied;	• initiate questions and hypotheses about historic events they are studying;
• seek historical background when confronted with problems and issues of the past, as well as of today's world and their own lives;	• describe and analyze, using historical data and understandings, the options which are available to parties involved in contemporary conflicts or decision making;	• describe and analyze, using historical data and understandings, the options which are available to parties involved in contemporary conflicts or decision making;
• be active learners at cultural institutions, such as museums and historical exhibitions;	• be active learners at cultural institutions such as museums and historical exhibitions;	• be active learners at cultural institutions such as museums and historical exhibitions;
• display empathy for people who have lived in the past; and	• display empathy for people who have lived in the past; and	• display empathy for people who have lived in the past; and
• recognize relationships between events and people of the past and present circumstances, concerns and developments.	• describe relationships between historical subject matter and other subjects they study, current issues and personal concerns.	• describe relationships between historical subject matter and other subjects they study, current issues and personal concerns.

CONTENT STANDARD 5: United States Constitution And Government

Students will apply knowledge of the U. S. Constitution, how the U. S. system of government works and how the rule of law and the values of liberty and equality have an impact on individual, local, state and national decisions.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- explain the purposes of laws and the ideas and principles that make just laws;
- explain that individuals have rights and responsibilities to follow the law;
- recognize the Constitution, including the Bill of Rights, as an important document that guides our country and limits the power of the government;
- identify services provided by national, state and local governments and how we pay for them through taxation;
- apply the process of how leaders are selected and how people monitor and influence decisions of their government;
- identify the location of seats of government at the local, state and national levels; and

(continued)

Educational experiences in **Grades 5-8** will assure that students:

- demonstrate an understanding of the historical background of the Declaration of Independence;
- explain how the Constitution divides the power of government among the executive, legislative and judicial branches, and how each branch can check the power of another;
- explain how and why powers are distributed among the national, state and local governments;
- identify their representatives in national and state legislatures, and the heads of the executive branch at the national, state and local levels;
- understand the process of how a bill becomes a law;
- explain how an individual's rights to life, liberty and property are protected by the Constitution and criminal and civil laws;

(continued)

Educational experiences in **Grades 9-12** will assure that students:

- apply an understanding of historical and contemporary conflicts over Constitutional principles;
- analyze historical and contemporary conflicts through the respective roles of local, state and national governments;
- explain how the design of the U.S. Constitution is intended to balance and check the powers of the branches of government;
- analyze, using historical and contemporary examples, the meaning and significance of the ideal of equal protection under the law for all persons;
- explain why state and federal court powers of judicial review reflect the United States idea of constitutional government; and

(continued)

K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades K-4** will assure that students:

- apply the concepts of liberty, tolerance and majority rule and how they relate to individual rights.

Educational experiences in **Grades 5-8** will assure that students:

- describe means of conflict management, including negotiation, mediation, arbitration and litigation; and
- describe how the public agenda is shaped by political leaders and parties, interest groups, the media, public opinion, state and federal courts, and individual citizens.

Educational experiences in **Grades 9-12** will assure that students:

- evaluate the contemporary roles of political parties, associations, media groups and public opinion in local, state and national politics.

CONTENT STANDARD 6: Rights And Responsibilities Of Citizens

Students will demonstrate knowledge of the rights and responsibilities of citizens to participate in and shape public policy, and contribute to the maintenance of our democratic way of life.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- explain the meaning and important characteristics of citizenship in the United States;
- identify the rights of citizens in a democratic society and explain why certain responsibilities are important to themselves, their families, community, state and nation;
- establish, explain and apply criteria useful in evaluating rules and laws for solving problems and resolving conflicts between people;
- explain the importance of taking an active role in political leadership and public service in their school and community; and
- exercise political participation by discussing public issues, building consensus and becoming involved in politics.

Educational experiences in **Grades 5-8** will assure that students:

- describe how one becomes a citizen of the United States;
- explain the meaning of political rights (e.g., right to vote, right to assemble) as distinguished from personal rights (e.g., freedom of speech, freedom of movement);
- evaluate situations involving conflicts between rights and propose solutions to these conflicts;
- identify significant characteristics of an effective citizen and know how to influence public policy by participating in the government of their school;
- research an issue of interest and be able to take and defend a position on that issue; and
- identify and apply criteria useful in selecting political leaders at the local, state and national levels.

Educational experiences in **Grades 9-12** will assure that students:

- evaluate whether or when their obligations as citizens require that their personal desires, beliefs and interests be subordinated to the public good;
- identify and explain characteristics needed for effective participation in public life;
- establish, explain and apply criteria to evaluate rules and laws;
- monitor and influence the formation and implementation of policy through various forms of participation; and
- take a position on a current policy issue and attempt to influence its formation, development and implementation.

CONTENT STANDARD 7: Political Systems

Students will explain that political systems emanate from the need of humans for order, leading to compromise and the establishment of authority.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- define power and authority and how they evolve into government;
- describe the need for a limited government so that people can be treated fairly;
- define and describe government in terms of people and groups who apply and enforce rules and laws;
- identify protection of individual rights and promotion of the common good;
- identify what governments can and cannot do; and
- explain that it is important to limit government so that individual rights can be protected.

Educational experiences in **Grades 5-8** will assure that students:

- describe and compare unlimited and limited government;
- explain the meaning of civic life, politics and government;
- compare and evaluate forms of government found outside the United States; and
- describe the role of the U. S. Constitution in the limitation of government powers.

Educational experiences in **Grades 9-12** will assure that students:

- evaluate the importance of developing self-government so as to restrict arbitrary power;
- analyze and evaluate the advantages and disadvantages of limited and unlimited government;
- compare two or more constitutions and how they promote the principles of their respective political systems and provide the basis for government;
- describe how constitutions may limit government in order to protect individual rights and promote the common good;
- explain how purposes served by government have implications for the individual and society; and
- provide examples of legitimate authority and exercise of power without authority.

CONTENT STANDARD 8: International Relations

Students will demonstrate an understanding of how the major elements of international relations and world affairs affect their lives and the security and well-being of their community, state and nation.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- explain how communities and nations interact with one another; and
- describe ways in which communities and nations influence each other.

Educational experiences in **Grades 5-8** will assure that students:

- describe the organization of the world into nation-states and describe some ways that nation-states interact with one another;
- explain what foreign policy is and give examples of United States foreign policy;
- describe the influence of U. S. political, economic and cultural ideas on other nations and the influence of other nations' ideas on the United States;
- evaluate the impact of significant international events on the United States and on other nations;
- describe the roles of the three branches of U. S. government in developing and conducting foreign policy;
- describe how foreign policy decisions may affect domestic groups and organizations; and

(continued)

Educational experiences in **Grades 9-12** will assure that students:

- describe how the United States influences other governments and international organizations and how the United States, in turn, is influenced by them;
- analyze and evaluate the significance of major U. S. foreign policies and major international events and conditions over time;
- develop proposals regarding solutions to significant international, political, economic, demographic or environmental issues;
- analyze the respective roles of the executive and legislative branches in developing and implementing foreign policy;
- identify and analyze the various domestic, political, economic and social interests which play roles in the development of foreign policy; and

(continued)

CONTENT STANDARD 8: International Relations

K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades 5-8** will assure that students:	Educational experiences in **Grades 9-12** will assure that students:
• describe how domestic groups and organizations seek to influence foreign policy decisions.	• describe and analyze the process by which foreign policy decisions are developed and executed.

CONTENT STANDARD 9: Places And Regions

Students will use spatial perspective to identify and analyze the significance of physical and cultural characteristics of places and world regions.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- define and identify natural and human characteristics of places;
- explain how human and natural processes shape places;
- provide reasons why and describe how places and regions change and are connected;
- observe and describe how places and regions are identified, defined and bounded;
- locate places within their own and nearby communities in Connecticut; and
- locate major physical and human features in the New England region and the United States.

Educational experiences in **Grades 5-8** will assure that students:

- describe human and natural characteristics of places and how they shape or place identity;
- describe the process and impact of regional change;
- examine ways in which regions are interconnected;
- identify and evaluate various perspectives associated with places and regions;
- explain and assess how culture affects perception of places and regions;
- use latitude and longitude to locate places and calculate differences between places;
- locate natural and cultural features in their own and nearby communities, in the United States and in other regions of the world, as needed, to answer geographic questions; and

(continued)

Educational experiences in **Grades 9-12** will assure that students:

- explain and describe the natural and cultural characteristics of one place to distinguish it from another;
- apply the concept of region to organize the study of a complex problem;
- explain that regions are interconnected and may also overlap;
- explain why places and regions are important to human and cultural identity and stand as symbols for unifying society; and
- analyze ways different groups in society view places and regions differently.

K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades 5-8** will assure that students:

- demonstrate how personal knowledge and experiences influence an individual's perception of places.

CONTENT STANDARD 10: Physical Systems

Students will use spatial perspective to explain the physical processes that shape the Earth's surface and its ecosystems.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- identify the types of physical systems and their characteristics that affect the Earth's surface;
- demonstrate how Earth-sun relationships shape climate and vegetation patterns;
- explain the factors that affect the location, distribution and associations of features of the physical environment;
- define local environmental features;
- draw a simple map of continents and oceans; and
- locate Earth's major physical and human features (including cities, countries, bodies of water, etc.).

Educational experiences in **Grades 5-8** will assure that students:

- understand how concepts of physical geography can be applied to explain natural processes;
- understand and apply how natural processes influence the formation and location of resources;
- use basic climatic and other physical data to understand how natural processes shape environmental patterns; and
- explain local and world patterns of ecosystem distribution.

Educational experiences in **Grades 9-12** will assure that students:

- describe regional variations of physical processes;
- explain the operation and interaction of different natural systems (such as climate and oceans) to understand global change;
- analyze the distribution of ecosystems by interpreting relationships between soil and climate, and plant and animal life;
- evaluate ecosystems in terms of biodiversity and productivity and show how they are dynamic and interactive;
- draw a freehand map of the world with continents (appropriate shape and size) located in relation to equator, tropics, circles and prime meridian; and
- use geographic tools to represent and interpret Earth's physical and human systems.

CONTENT STANDARD 11: Human Systems

Students will interpret spatial patterns of human migration, economic activities and political units in Connecticut, the nation and the world.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- explain the patterns, distributions and relocations of people;
- identify the political, social and economic units of an area;
- understand the elements of culture and how they change;
- locate Earth's major physical and human features (including cities, countries, bodies of water, etc.);
- explain locations and characteristics of human settlements and how they have changed over time;
- describe the characteristics of a physical and a human system;
- locate places within their own and nearby communities in Connecticut; and
- locate major physical and human features in the New England region and the United States.

Educational experiences in **Grades 5-8** will assure that students:

- explain the patterns and characteristics of human migrations at various levels;
- explain how patterns of international trade change technology, transportation and communication, and affect economic activities and human migration;
- analyze the formation, characteristics and functions of urban, suburban and rural settlements; and
- identify processes that divide Earth's surface into different political and economic units from local to international levels.

Educational experiences in **Grades 9-12** will assure that students:

- describe the consequences of human population patterns and growth trends over time;
- explain the characteristics, distribution and relationships of economic systems at various levels;
- explain and analyze how various populations and economic elements interact and influence the spatial patterns of settlement;
- explain and analyze the causes of change in the political, social and economic division of the Earth's surface at different scales;
- use geographic tools to represent and interpret Earth's physical and human systems; and
- draw a freehand map demonstrating political, cultural or economic relationships.

CONTENT STANDARD 12: Human And Environment Interaction

Students will use geographic tools and technology to explain the interactions of humans and the larger environment, and the evolving consequences of those interactions.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- explain the characteristics and purposes of maps, globes and other geographical tools and technologies;
- create information from maps, globes and geographic models in graphs, diagrams and charts;
- use maps, globes, graphs, models, computer programs and texts, as appropriate;
- explain how human and natural processes shape places;
- explain ways in which humans use and interact with environments;
- identify locations of various economic activities and understand how physical and human factors influence them; and
- describe how and why physical and human systems function and interact and the consequences of these interactions.

Educational experiences in **Grades 5-8** will assure that students:

- explain the essential features and functions of maps, globes, photographs, geographic models and satellite images;
- make maps, globes, models, charts and geographic databases;
- compare and contrast differences among maps, globes, photographs, models and satellite images for solving geographic problems;
- use maps, globes, models, graphs, charts and databases to analyze distributions and patterns;
- describe human and natural characteristics of places and how they shape or place identity;
- draw a freehand map from memory of increasing and appropriate complexity to display geographic information and answer geographic questions;

(continued)

Educational experiences in **Grades 9-12** will assure that students:

- use maps, globes, charts and databases to analyze and suggest solutions to real-world problems;
- create appropriate maps and other tools to solve, illustrate or answer geographic problems;
- analyze how human systems interact, connect and cause changes in physical systems;
- locate at least 50 major countries and physical features on a map or globe; and
- apply concepts of ecosystems to understand and solve environmental problems.

K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades 5-8** will assure that students:

- demonstrate and explain ways that humans depend on, adapt to and alter the physical environment; and
- identify the ways ecosystems are transformed through physical and human activities, and can predict the consequences of these activities.

CONTENT STANDARD 13: Limited Resources

Students will demonstrate that because human, natural and capital resources are limited, individuals, households, businesses and governments must make choices.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- define scarcity and abundance;
- identify goods and services and give an example of each;
- identify and give examples of resources: human, natural and capital, and explain how they are used;
- explain why some countries are richer than others; and
- identify alternative uses of resources found in their home, school or neighborhood.

Educational experiences in **Grades 5-8** will assure that students:

- compare the resources used by various cultures, countries and/or regions throughout the world;
- explain that households, businesses, governments and societies face scarcity just as individuals do;
- define opportunity and cost, giving examples;
- present historical and current controversies about the use of resources;
- illustrate how resources can be used in a variety of ways;
- explain economic growth as a sustained increase in the production of goods and services, and that Gross Domestic Product is the basic measure of economic output; and
- explain how technological change and innovation improves a society's productivity and economic growth.

Educational experiences in **Grades 9-12** will assure that students:

- compare the resources used by various cultures, countries and/or regions throughout the world;
- analyze the impact of economic choices on the allocation of scarce resources;
- explain that a country's potential Gross Domestic Product depends on the quantity and quality of natural resources, the size and skills of the population, and the amount and quality of its capital stock;
- define, defend and predict how the use of specific resources may impact the future;
- analyze how technological change can affect long-range productivity; and
- analyze how market forces and government regulation impact the use of resources.

CONTENT STANDARD 14: Economic Systems

Students will demonstrate that various economic systems coexist, and that economic decisions are made by individuals and/or governments, influenced by markets, cultural traditions, individuals and governments in the allocation of goods and services.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- identify the three basic questions all economic systems must answer: What will be produced? How will it be produced? For whom will it be produced?;
- explain that there are different economic systems in the world and that these systems use different means to produce, distribute and exchange goods and services;
- explain that a market exists whenever buyers and sellers exchange goods and services;
- define a consumer and a producer and their roles in a market system;
- describe how the price of a good or service in a market is related to how much of it there is and how many people want it;
- explain that some goods and services are provided by the government; and

(continued)

Educational experiences in **Grades 5-8** will assure that students:

- explain how different economic systems (traditional, market and command) use different means to produce, distribute and exchange goods and services;
- explain that all countries' economies reflect a mix of market, command and traditional elements;
- describe the relationships among demand, supply and price and their roles in a market system;
- identify how fundamental characteristics of a market system (e.g., private property, profits and competition, businesses, labor, banks and government) influence decision making;
- identify governmental activities that affect the local, state, national and international economy;

(continued)

Educational experiences in **Grades 9-12** will assure that students:

- evaluate economic systems by their ability to achieve broad societal goals, such as efficiency, equity, security, employment, stability and economic growth;
- identify and explain the factors that determine and cause changes in demand, supply and the market-clearing (equilibrium) price;
- compare and contrast the characteristics and effects of different market structures, including pure competition, monopolistic competition, oligopoly and monopoly;
- interpret important statistics about the national economy: the inflation rate, unemployment rate, Gross Domestic Product and its growth rate;

(continued)

K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades K-4** will assure that students:

- explain that government raises money by taxing and borrowing to pay for the goods and services it provides.

Educational experiences in **Grades 5-8** will assure that students:

- describe how, in a market system, government enforces property rights and provides for standardized systems (e.g., weights and measures, and money); and
- analyze the impact of government taxing and spending decisions on specific individuals, businesses, organizations and groups.

Educational experiences in **Grades 9-12** will assure that students:

- understand the causes and effects of periods of growth and recession evident in the history of market economies;
- analyze the impact of government taxing and spending actions and changes in the money supply and interest rates on the national economy;
- contrast and compare different types of taxes, including progressive, regressive and proportional taxes;
- explain reasons for government action in the economy, including providing public goods and services, maintaining competition, redistributing income, promoting employment, stabilizing prices and sustaining reasonable rates of economic growth; and
- analyze the impact of specific government actions in the economy on different groups, including consumers, employees and businesses.

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CONTENT STANDARD 15: Economic Interdependence

Students will demonstrate how the exchange of goods and services by individuals, groups and nations creates economic interdependence and how trade results in change.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- describe how voluntary exchange benefits all parties involved in the exchange of goods and services;
- describe how the exchange of goods and services around the world creates interdependence among people in different places; and
- recognize that money is a generally accepted medium of exchange and that different countries use different currencies.

Educational experiences in **Grades 5-8** will assure that students:

- explain how specialization leads to more efficient use of economic resources and economic growth;
- explain why trade encourages specialization; and
- explain how specialization increases interdependence among producers, consumers and nations and consequently leads to a higher standard of living.

Educational experiences in **Grades 9-12** will assure that students:

- illustrate the international differences in resources, productivity and prices that are a basis for international trade;
- evaluate the effects of national policies (e.g., on trade, immigration and foreign investments, as well as fiscal and monetary policies) on the international exchange of goods, services and investments; and
- explain that a nation has a comparative advantage when it can produce a product at a lower opportunity cost than its trading partner.

TECHNOLOGY EDUCATION CURRICULUM FRAMEWORK

Connecticut State Department of Education
Division of Teaching and Learning
March 1998

TECHNOLOGY EDUCATION

By the end of Grade 12, students will know about the nature, power, influence and effects of technology, and will be able to design and develop products, systems and environments to solve problems.

PROGRAM GOALS

As a result of education in Grades K-12, students will:

- evaluate the effects of existing and emerging technologies on people and the environment over time;
- recognize the scope of technology and evaluate the impact and influence technology has on society, culture and the environment – past, present and future;
- develop and use strategies for adjusting to new technologies and changing interactions among science, technology and society;
- develop cognitive and psychomotor problem-solving skills through applied research, design, production, operation and analysis of technological systems (informational, physical and biological);
- safely and effectively use resources, processes, concepts and tools of technology;
- create devices for solving problems, using creativity and concepts of design and technology; and
- understand the influences of technology on consumer and career choices.

K-12 CONTENT STANDARDS

1.	**Economics**	Students will understand the link between technology and the economy, and recognize that link as the force behind societal emergence and evolution.
2.	**Technological Impacts**	Students will understand the impact that technology has on the social, cultural and environmental aspects of their lives.
3.	**Career Awareness**	Students will become aware of the world of work and its function in society, diversity, expectations, trends and requirements.
4.	**Problem Solving/Research and Development**	Students will recognize technology as the result of a creative act, and will be able to apply disciplined problem-solving strategies to enhance invention and innovation.
5.	**Leadership**	Students will identify and develop leadership attributes and apply them in team situations.
6.	**Materials and Processes**	Students will know the origins, properties and processing techniques associated with the material building blocks of technology.
7.	**Communications Systems**	Students will understand and be able to effectively apply physical, graphic and electronic communications techniques in processing, transmitting, receiving and organizing information.
8.	**Production Systems**	Students will understand and be able to demonstrate the methods involved in turning raw materials into usable products.
9.	**Transportation Systems**	Students will understand transportation systems and the environments used to move goods and people, and the subsystems common to each.
10.	**Enterprise**	Students will demonstrate the techniques of enterprise and how they relate to product and service production, economics, human and material resources, and technology.
11.	**Engineering Design**	Students will be able to apply the engineering design process to achieve desired outcomes across all technology content areas.

CONTENT STANDARD 1: Economics

Students will understand the link between technology and the economy, and recognize that link as the force behind societal emergence and evolution.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- define *business* and *industry;* and
- describe business and industry as producers of products or services.

Educational experiences in **Grades 5-8** will assure that students:

- describe how societies are organized to produce and distribute goods and services in a structured manner;
- describe how society uses resources and distributes its goods and services;
- describe how a business produces profit;
- describe the major economic and political systems in relation to technological activity;
- identify three types of businesses;
- describe free enterprise;
- discuss the global market/economy and understand its effects on the United States;
- analyze a product for its ability to satisfy consumer demands; and
- develop skills in making wise consumer decisions.

Educational experiences in **Grades 9-12** will assure that students:

- identify how the development and production of products and services are dependent on the transformation of available resources;
- identify current global, social and economic trends, and identify their relationship to computer-controlled production;
- describe the evolution of technological enterprise and its influence on the economy, culture, society and environment;
- describe the characteristics of single ownership, corporations, companies and partnerships; and
- compare and contrast ways of financing an enterprise.

CONTENT STANDARD 2: Technological Impacts

Students will understand the impact that technology has on the social, cultural and environmental aspects of their lives.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- define *technology;*
- describe how technology is used in familiar surroundings;
- describe how their actions can affect the environment;
- identify positive and negative impacts of technology;
- describe the role of technology in their lives;
- trace the historical development of a product or process of technology;
- define the role of technology in education, the family and the community; and
- identify an existing technology and describe how it could be used differently.

Educational experiences in **Grades 5-8** will assure that students:

- explain how technology and technological activity has expected and unexpected effects;
- develop criteria for evaluating technology;
- identify and describe how individual technological innovations may be combined to create new technologies;
- explore and identify the personal, societal, economic and environmental effects of technological systems;
- trace the historical development of at least one technology, identifying its effects and hypothesizing about its future;
- identify the social and economic impacts of automation and computer-controlled processing; and
- describe the universal input, process, output , feedback (IPOF) systems model.

Educational experiences in **Grades 9-12** will assure that students:

- forecast trends in communications, production, transportation and the bio-related technologies, and project their potential impacts;
- employ the input, process, output, feedback system model to their evaluation of technological impacts;
- evaluate technologies based on their positive and negative outcomes; and
- discuss societal and industrial responsibilities for using proper hazardous waste disposal techniques.

CONTENT STANDARD 3: Career Awareness

Students will become aware of the world of work and its function in society, diversity, expectations, trends and requirements.

K- 12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- define *work*, and identify how people earn a living;
- identify occupations that require working with people, places or things;
- describe how mathematics, science, language arts, social studies and the arts are related to technology;
- research and report on a technological career;
- define the role of mathematics, science, language arts, social studies, the arts and technology education in preparing for various careers; and
- describe how advances in technology have created new and emerging career options.

Educational experiences in **Grades 5-8** will assure that students:

- describe how technological development affects careers and occupations;
- demonstrate awareness of changes in job requirements over time;
- describe strategies for assuming responsibility;
- develop personal responsibility and accountability in the workplace;
- define and discuss personal and professional ethics;
- discuss coping strategies for change;
- identify expectations in the workplace;
- define and discuss the concept of "work ethic";
- explore career options;
- define and discuss "career path";

(continued)

Educational experiences in **Grades 9-12** will assure that students:

- identify career opportunities in the areas of transportation, communications, production and biotechnology;
- demonstrate an ability to take responsibility for their own actions;
- explain the need to be a lifelong learner;
- exhibit appropriate behaviors in both school and work situations;
- define and demonstrate a personal work ethic; and
- identify future labor market trends.

K- 12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades 5-8** will assure that students:

- prepare a preliminary career plan, with connections to high school course selections; and
- develop strategies for predicting labor market needs.

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CONTENT STANDARD 4: Problem Solving/Research and Development

Students will recognize technology as the result of a creative act, and will be able to apply disciplined problem-solving strategies to enhance invention and innovation.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- identify and define a problem;
- describe different methods of problem solving;
- describe one problem-solving model;
- gather, record and organize data, based on observations;
- develop an action plan;
- evaluate a solution to a problem;
- communicate their solutions to problems with others; and
- identify a problem and use a problem-solving method to develop a solution.

Educational experiences in **Grades 5-8** will assure that students:

- differentiate between human problems and needs;
- define decision-making, research and invention;
- discuss how technological systems have been used to solve human problems;
- select and apply a general problem-solving model in a laboratory setting;
- identify research methods, materials and techniques;
- apply cooperative techniques while engaged in group problem-solving activities;
- engage in an activity that requires creativity;
- apply appropriate and effective questioning techniques;
- describe and apply the processes used to make decisions;

(continued)

Educational experiences in **Grades 9-12** will assure that students:

- use research techniques to support design development;
- apply the descriptive statistics of average, percentage, correlation and graphing to design outcomes;
- develop several alternative design solutions to the same problem;
- use a communication technology to visualize a design idea;
- know the laws related to copyrights, trademarks and patents;
- present a design idea using multimedia technology;
- prepare and document a design brief;
- select appropriate technical processes and fabricate a prototype;
- design and conduct a technical experiment; and

(continued)

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K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades 5-8** will assure that students:	Educational experiences in **Grades 9-12** will assure that students:
• conduct an applied research project; • develop, test and modify a design idea through experimentation; • differentiate between invention and innovation; and • develop a solution for a real-life problem.	• apply biological materials and processes to solve a problem.

CONTENT STANDARD 5: Leadership

Students will identify and develop leadership attributes and apply them in team situations.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- define *team;*
- identify the role of various team members;
- describe a team within the school setting;
- evaluate the effectiveness of a team;
- organize a team to solve a teacher-given problem; and
- define the responsibility of each member of a work team.

Educational experiences in **Grades 5-8** will assure that students:

- create a simple flowchart of their daily activities;
- engage in presentation activities;
- identify the elements of interpersonal communication;
- identify and demonstrate organizational skills;
- explore different roles while working cooperatively and effectively in team situations;
- demonstrate strategies for effectively managing time;
- develop organizational skills through practical experiences; and
- explore different roles within a team environment.

Educational experiences in **Grades 9 -12** will assure that students:

- apply organizational skills to classroom and laboratory activities;
- develop a personal time management plan;
- assume roles within a team environment commensurate with their skills and expertise; and
- present information in a clear, concise and appropriate manner.

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CONTENT STANDARD 6: Materials and Processes

Students will know the origins, properties and processing techniques associated with the material building blocks of technology.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- identify the characteristics of different resources and describe how these resources can serve different purposes;
- describe that, by processing resources, the resources can be used differently;
- select the appropriate tool for a given need;
- use tools and resources correctly and safely;
- identify technological resources as materials, people, time, money, information, tools, etc.; and
- describe how the processing of resources can produce a more useful product.

Educational experiences in **Grades 5-8** will assure that students:

- identify and describe a group of new and recycled materials used in technological systems;
- differentiate between primary and secondary raw materials;
- explore methods used to convert raw and recycled materials into usable products;
- demonstrate the appropriate selection and safe operation of basic hand and power tools;
- use manual and electronic measuring devices accurately;
- explore the principles of manual material-processing techniques;
- describe how products are manufactured;

(continued)

Educational experiences in **Grades 9-12** will assure that students:

- list the techniques used to extract raw materials from the environment;
- describe the physical structures and properties of materials used in technological systems;
- classify raw materials according to their physical and mechanical properties;
- distinguish between organic and inorganic materials;
- experiment with the alteration of material characteristics;
- differentiate between natural and artificial materials;
- research, plan and participate in recycling activities;
- identify secondary materials and processes through product analysis; and

(continued)

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K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades 5-8** will assure that students:

- demonstrate a working knowledge of the layout, shaping, smoothing, assembly and finishing techniques used to produce a product;
- explore the principles of computer-controlled processing techniques; and
- produce simple products from a variety of materials, using manual and computer-controlled devices.

Educational experiences in **Grades 9-12** will assure that students:

- produce products with raw and recycled materials by separating, forming, combining, conditioning and finishing;

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CONTENT STANDARD 7: **Communications Systems**

Students will understand and be able to effectively apply physical, graphic and electronic communications techniques in processing, transmitting, receiving and organizing information.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- define *technological system;*
- identify the parts of a technological system;
- use a technological system;
- describe the function of various systems;
- describe the universal input, process, output, feedback (IPOF) system model; and
- demonstrate an IPOF system.

Educational experiences in **Grades 5-8** will assure that students:

- identify and give examples of integrated technologies;
- identify the elements of interpersonal communication;
- identify the elements of mass communications;
- acquire technology-based information and apply it in classroom and laboratory situations;
- explore and explain the integration of communication technologies into transportation and production systems;
- apply techniques of interpersonal and mass communication through activities such as sketching, computer-aided drafting (CAD), photography and video; and
- evaluate and select appropriate methods of communication for a given problem or situation.

Educational experiences in **Grades 9-12** will assure that students:

- describe electronic publishing and give examples of this technology;
- demonstrate the proper use of the terminology associated with electronic publishing, graphic arts and computers;
- identify and describe component functions of a microcomputer electronic publishing system;
- apply accepted design principles of text and graphics to the layout of printed and electronically published materials;
- operate a scanner and digitize a video image using appropriate software;
- demonstrate skills in marketing printed products;
- send and access information through a network;

(continued)

K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades 9-12** will assure that students:

- design and produce a video and multimedia production;
- capture a signal from an orbiting satellite;
- transfer information using laser transmission technology;
- communicate using fiber optic cables;
- operate a computer-aided drafting (CAD) system;
- generate a computer image of an object in 3D format;
- render an object to include texture, density, lighting and rotational movement; and
- export and import images in a variety of file forms.

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CONTENT STANDARD 8: Production Systems

Students will understand and be able to demonstrate the methods involved in turning raw materials into usable products.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- define *technological system;*
- identify the parts of a system;
- use a technological system;
- describe the function of various systems;
- describe the input, process, output, feedback (IPOF) system model; and
- demonstrate an IPOF system.

Educational experiences in **Grades 5-8** will assure that students:

- define manufacturing terminology, including interchange ability, automation, standardization, etc.;
- describe how products are manufactured using the methods of single craftsman, line and mass, and automated-robotics manufacturing;
- identify and describe the tools, materials and methods used in manufacturing products;
- identify the characteristics of sub- and superstructures;
- identify and describe the tools, materials and methods used in constructing sub- and superstructures;
- design, construct and test models of shelters and other structures; and
- produce a product using a simple production sequence: layout, shaping, smoothing, assembly and finishing techniques.

Educational experiences in **Grades 9-12** will assure that students:

- describe the relationship between the universal systems model and production technology;
- differentiate between manufacturing and construction systems;
- trace the historical development of the construction industry;
- differentiate between residential and commercial construction systems;
- describe the significance of architectural drawings, specifications and contracts in the construction industry;
- describe and apply the process of site selection and preparation;
- demonstrate an ability to read and interpret architectural renderings;

(continued)

Educational experiences in **Grades 9-12** will assure that students:

- demonstrate the safe and accurate use of layout, forming, separating, combining, treating, and finishing tools and procedures in building a shelter or structure;
- identify, describe and apply the structural elements used in commercial floor, wall and roofing systems;
- identify and describe the nonstructural characteristics of plumbing, electrical and environmental systems used in construction;
- complete a cost estimation, create a critical path network, and construct a small full-scale shelter or structure;
- discuss advanced construction systems and the role they play in future societies;

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CONTENT STANDARD 8: Production Systems

K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades 9-12** will assure that students:

- discuss the problems and possibilities of construction practices in the alternative environmental colonization settings of submarine, space and extra planetary;
- trace the historical evolution of manufacturing;
- discuss the advantages of environmentally conscious manufacturing;
- demonstrate an ability to safely and accurately use the layout, form, separate, combine, treat and finish tools and processes in manufacturing a product;
- distinguish between custom, just-in-time and flexible manufacturing techniques;
- generate and operate a computer numerical control (CNC) program;
- describe computer-integrated manufacturing (CIM); and
- describe space industrialization and list several products that are manufactured from secondary materials produced in a microgravity environment.

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CONTENT STANDARD 9: Transportation Systems

Students will understand transportation systems and the environments used to move goods and people, and the subsystems common to each.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- define *technological system;*
- identify the parts of a system;
- use a technological system;
- describe the function of various systems;
- describe the input, process, output, feedback (IPOF) system model; and
- demonstrate an IPOF system.

Educational experiences in **Grades 5-8** will assure that students:

- differentiate between vehicular and stationary transportation systems;
- differentiate between fixed and random-route land transportation systems;
- describe and be able to identify the transportation subsystems of body/frame, propulsion, suspension, control, guidance and support in a variety of transportation devices;
- explore the characteristics of lighter than air and heavier than air atmospheric transportation systems;
- apply the concept of transportation subsystems while solving transportation problems;
- identify and experiment with devices used to protect product and personnel in transportation systems; and
- explore, build and experiment with model marine, space, land and air transportation systems.

Educational experiences in **Grades 9-12** will assure that students:

- identify and describe the historical innovations in the evolution of transportation systems and their impact on our society, economy and environment;
- understand the principles of aerodynamics;
- design, fabricate, test and evaluate a land, atmospheric, marine and space transportation system;
- identify and explore solutions to future global transportation problems;
- explore and experiment with traditional and alternative fuels; and
- describe how pneumatic, hydraulic, mechanical and electrical energy are used in transportation systems.

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CONTENT STANDARD 10: Enterprise

Students will demonstrate the techniques of enterprise and how they relate to product and service production, economics, human and material resources, and technology.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- identify various local businesses and industries as producers of goods or services; and
- create a mock business within the classroom or school.

Educational experiences in **Grades 5-8** will assure that students:

- describe the evolution of technological enterprise;
- discuss the influence of enterprise on culture, society and the environment;
- define the terms *single ownership, company, corporation* and *partnership;*
- explore the career possibilities and responsibilities in enterprise;
- identify and explore a variety of organizational structures, describing the advantages and disadvantages of each;
- explore market research and its relationship to satisfying consumer needs; and
- develop, distribute and evaluate a customer survey.

Educational experiences in **Grades 9-12** will assure that students:

- design a simulated enterprise and participate in a variety of roles within the organizational structure;
- explore company responsibilities toward employees, community and the environment;
- discuss the current and historical significance of unions;
- design a product based on customer need, available materials, tools, equipment and fiscal resources;
- develop a floor diagram and flowchart;
- define and use the quality control measures of pre-inventory inspection, statistical process control and total quality management;
- discuss the required modifications if a product were to be manufactured in a nontraditional environment;

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K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades 9-12** will assure that students:

- calculate the cost of producing a manufactured product and determine a retail price; and
- develop a marketing plan and successfully distribute a product.

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CONTENT STANDARD 11: Engineering Design

Students will be able to apply the engineering design process to achieve desired outcomes across all technology content areas.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- define *design*; and
- construct, evaluate and modify a model or prototype.

Educational experiences in **Grades 5-8** will assure that students:

- identify the elements of design;
- discuss the differences between problem solving and engineering design strategies;
- explain the role of creativity in the engineering design process;
- describe conceptual design, embodiment design and detail design and identify their roles in the engineering process;
- explore a variety of creativity-enhancing techniques;
- develop conceptual designs for transportation, communications, production and bio-related problems;
- use a variety of creativity-enhancing techniques in conceptual design situations;
- explore techniques used to refine conceptual design sketches; and
- develop preliminary product layouts.

Educational experiences in **Grades 9-12** will assure that students:

- differentiate between the problem solving and engineering design processes;
- describe the detail design phase of the engineering design process;
- demonstrate an ability to complete a detail design for any given embodiment design;
- apply a variety of creativity-enhancing techniques in completing a conceptual, embodiment and detail design solution; and
- apply the full engineering design process to produce a product on time that meets all initial criteria, using appropriate tools and material resources.

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WORLD LANGUAGES CURRICULUM FRAMEWORK

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Connecticut State Department of Education
Division of Teaching and Learning
March 1998

WORLD LANGUAGES

By the end of Grade 12, students will listen, speak, read and write proficiently in at least one language other than English, and will understand the culture(s) of that language.

PROGRAM GOALS

As a result of education in Grades K-12, students will:

- **communicate** in at least one language other than English;
- gain knowledge and understanding of other **cultures**;
- make **connections** with other areas of study and acquire information;
- understand the nature of language and cultures through **comparisons**; and
- participate in multilingual **communities** within a variety of contexts.

NOTE: The national standards task force identified five goal areas that encompass all of the reasons to study a foreign language and called them *The Five C's of Foreign Language Education* – ***communication, cultures, connections, comparisons*** and ***communities***. *The World Languages Curriculum Framework* is based on the document published by this task force: *Standards for Foreign Language Learning: Preparing for the 21st Century*, 1996. Both of these standards documents encompass all languages, ancient and modern.

K-12 CONTENT STANDARDS

		In at least one language other than English:
1)	**Communication**	Students will engage in conversation, provide and obtain information, express feelings and exchange opinions.
2)	**Communication**	Students will understand and interpret spoken and written language on a variety of topics.
3)	**Communication**	Students will present information, concepts and ideas to listeners or readers on a variety of topics.
4)	**Cultures**	Students will demonstrate an understanding of the traditions, products and perspectives of the cultures studied.
5)	**Connections**	Students will reinforce and expand their knowledge of other areas of study through the world language.
6)	**Connections**	Students will acquire and use information from a variety of sources only available in the world language, using technology, print, audiovisual, media, data and human resources.
7)	**Comparisons Among Languages**	Students will demonstrate an understanding of the nature of language through comparisons of that world language and their own.
8)	**Comparisons Among Cultures**	Students will demonstrate an understanding of the concept of culture through comparisons of the cultures studied and their own.
9)	**Communities**	Students will use the world language both within and beyond the school setting for personal enjoyment, enrichment and active participation.

CONTENT STANDARD 1: Communication

In at least one language other than English, students will engage in conversation, provide and obtain information, express feelings and exchange opinions.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- greet others and exchange essential information, including names, addresses, birthplaces and telephone numbers;
- give and follow simple instructions by participating in various games or other activities with partners or groups;
- describe their favorite activities at home and school;
- describe various people and objects found at home and school;
- exchange basic information about events, such as classes, meetings and meals;
- express their likes and dislikes regarding various people, objects, categories and events present in their everyday environments;
- recognize that there are often multiple ways to express an idea in the target language;

(continued)

Educational experiences in **Grades 5-8** will assure that students:

- exchange information with peers (both face-to-face and in writing) about events in their everyday lives and memorable experiences from their past;
- exchange opinions about people, activities and events in their personal lives or communities;
- give and follow directions in order to travel from one location to another and ask questions for clarification;
- acquire goods and/or services through basic negotiations and exchange of monies;
- work in groups to plan events and activities to be carried out in the target language, evaluate their efforts and identify ways to improve their communication in the target language; and
- find alternate methods of communication when they cannot express their intended message adequately.

Educational experiences in **Grades 9-12** will assure that students:

- exchange information about current and past events, as well as their aspirations in their personal lives and the lives of their friends, families and others within their community;
- discuss their personal feelings and ideas with members of the target culture in order to persuade them to consider alternate viewpoints;
- participate in culturally appropriate exchanges that reflect social amenities, such as expressing gratitude, extending and receiving invitations, apologizing and communicating preferences;
- exchange information about international current events based on newspaper or magazine articles, television and radio programs and videos, and compare and contrast how information is reported in both the target and their native cultures;

(continued)

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CONTENT STANDARD 1: Communication

K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades K-4** will assure that students:

- use appropriate gestures, when necessary, to make their messages comprehensible; and
- indicate that they do not understand a message or that they cannot express their intended message adequately.

Educational experiences in **Grades 9-12** will assure that students:

- exchange opinions on a variety of topics, including issues that are of contemporary or historical interest in the target and their native cultures;
- work in groups to develop solutions to problems that are of contemporary or historical interest in both the target and their native cultures;
- share their personal reactions and feelings about authentic literary texts, such as poems, plays, short stories and novels; and
- employ rephrasing and circumlocution to successfully communicate their messages.

CONTENT STANDARD 2: Communication

In at least one language other than English, students will understand and interpret spoken and written language on a variety of topics.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- identify people and objects in their environment, based on oral and written descriptions;
- comprehend short conversations among peers and familiar adults on well-known topics, including their favorite activities at home or school;
- comprehend the main ideas contained in videos or television programs on familiar topics;
- comprehend brief notes on familiar topics, including daily activities at home or school;
- comprehend the principal message in highly illustrated texts in which cognates are used, including stories, newspaper articles and advertisements;
- comprehend the main idea of orally related personal anecdotes, familiar fairy tales and other narratives based on well-known themes;

(continued)

Educational experiences in **Grades 5-8** will assure that students:

- comprehend the main ideas when listening to peers and familiar adults discuss topics of personal interest;
- understand the main ideas, themes and some details from authentic television, radio or live presentations on topics that are of interest to themselves as well as their peers in the target culture;
- comprehend the basic content of written materials selected by the teacher on the basis of topical familiarity, e.g., personal letters, electronic mail, pamphlets, advertisements and illustrated newspaper and magazine articles;
- identify the principal characters and comprehend the main ideas, themes and significant details when reading authentic literary texts that have been adapted for student use;

(continued)

Educational experiences in **Grades 9-12** will assure that students:

- understand the main ideas and relevant details of extended discussions, lectures and formal presentations on topics related to daily life and/or historical or contemporary themes in the target culture;
- understand the main idea or plot and relevant details or subplots of radio or television programs, films or other forms of media designed primarily by native speakers of the target language;
- comprehend the main ideas and relevant details of live and recorded presentations of culturally significant songs, folk tales, comedies and anecdotes;
- comprehend the main ideas and significant details of full-length feature articles in newspapers and magazines on topics of current or historical importance in the target culture; and

(continued)

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CONTENT STANDARD 2: Communication

K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades K-4** will assure that students:

- comprehend the main ideas and identify the principal characters when reading poems, short folk tales or illustrated stories; and
- recognize and respond appropriately to voice inflection that indicates, for example, a question, statement or command.

Educational experiences in **Grades 5-8** will assure that students:

- sustain listening comprehension when confronted with less familiar topics by relying on verbal and nonverbal cues and listening for rephrasing and circumlocution;
- work individually to collect data on familiar topics from various print and electronic resources; and
- begin to make informed hypotheses about the meaning of unfamiliar, more complicated passages in the target language, based on contextual clues.

Educational experiences in **Grades 9-12** will assure that students:

- recognize the characters and the significance of their roles when reading authentic literary texts and comprehend the main plot and relevant subplot(s).

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CONTENT STANDARD 3: Communication

In at least one language other than English, students will present information, concepts and ideas to listeners or readers on a variety of topics.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- give simple oral reports or presentations about family members, friends, objects, or common school and home activities in their everyday environments;
- recite poetry, songs, proverbs or short anecdotes that are familiar to their peers in the target culture;
- create lists of items necessary to plan activities that might take place in their daily lives or in the target culture, such as a birthday party or picnic; and
- write short, informal notes in which they describe or provide information about themselves, their friends and families, and their school activities.

Educational experiences in **Grades 5-8** will assure that students:

- make brief presentations to their class in the target language on topics of personal interest or topics that have been studied in other subject areas;
- prepare recorded audio or video messages in the target language for their peers in the target culture on topics of personal interest in their daily lives;
- present short plays and skits, recite selected poems and anecdotes, and perform songs in the target language;
- write notes or short letters in the target language to peers in the target culture on topics of shared personal interest, including daily events and activities;
- prepare a diary of their daily activities and those of their families and friends in the target language;

(continued)

Educational experiences in **Grades 9-12** will assure that students:

- write letters in the target language to peers in the target culture, describing and analyzing current events of mutual interest;
- prepare oral presentations and/or written summaries on topics of current or historical interest in the target language;
- perform scenes from plays and/or recite poems or excerpts from short stories in the target language;
- prepare oral and/or written analyses in the target language of the plot, character descriptions and development, and themes found in authentic target language literary works, including poems, short stories and short works of fiction or nonfiction;
- describe, express opinions about and analyze stories, plays, poems or other literature, as well as radio programs, music, films and art; and

(continued)

K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades 5-8** will assure that students:	Educational experiences in **Grades 9-12** will assure that students:
• summarize the plot and provide brief descriptions of characters in selected poems, short stories, folk tales and anecdotes in the target language; and • effectively use repetition, rephrasing and gestures to assist them in communicating their meaning in the target language.	• use a dictionary or thesaurus written entirely in the target language to select appropriate words for use in preparing written and oral reports.

CONTENT STANDARD 4: Cultures

In at least one language other than English, students will demonstrate an understanding of the traditions, products and perspectives of the cultures studied.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- recognize simple themes, ideas or perspectives of the target culture;
- use appropriate gestures and oral expressions for greetings, farewells and common or familiar classroom interactions;
- participate in age-appropriate cultural activities, such as games, songs, birthday celebrations, storytelling, dramatizations or role-playing;
- observe and identify tangible products of the target language, such as toys, dress, types of dwellings, musical instruments and typical foods;
- identify and experience or read about expressive products of the target culture such as children's songs, selections from children's literature and types of artwork that are enjoyed or produced by their peer group in the target culture; and

(continued)

Educational experiences in **Grades 5-8** will assure that students:

- observe, identify and discuss patterns of behavior or interaction that are typical of their peer group in the target culture;
- use appropriate verbal and nonverbal behavior for daily activities among peers and for activities or contexts that include adult interaction;
- participate in age-appropriate cultural activities, including but not limited to adolescent games, e.g., card, board and outdoor games, sports-related activities, music and television;
- identify, analyze and evaluate themes, ideas and perspectives that are related to the products being studied;
- search for, identify and investigate the function of products from the target culture that are found in that culture's homes and communities; and

(continued)

Educational experiences in **Grades 9-12** will assure that students:

- identify, discuss and analyze various patterns of behaviors or interactions that are typical of the target culture;
- identify, analyze and evaluate themes, ideas and perspectives that are related to the target culture;
- successfully interact in a variety of cultural contexts that reflect both peer-group and adult activities within the target culture, using the appropriate verbal and nonverbal clues;
- identify, analyze and evaluate themes, ideas and perspectives related to products of the target culture;

(continued)

CONTENT STANDARD 4: **Cultures**

K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades K-4** will assure that students:

- identify, discuss and create different types of artwork that are enjoyed or made by their peer group in the target culture.

Educational experiences in **Grades 5-8** will assure that students:

- identify and experience or read about and discuss expressive forms of the target culture in order to explore their effects on the larger community. [These forms include popular music or dance, appropriate authentic texts, e.g., children's magazines, comic books or literature and common artwork, such as typical cultural designs that are used for clothing, pottery, ceramics, paintings and architectural structures.]

Educational experiences in **Grades 9-12** will assure that students:

- identify and experience or read about and discuss expressive products of the culture, including but not limited to literature, periodicals, videos, commercials and the fine arts; also assess the significance of these products in the larger community; and
- identify and analyze products of the target culture, such as social, economic, legal and political institutions, and explore the relationships between these institutions and the perspectives of the culture.

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CONTENT STANDARD 5: Connections

In at least one language other than English, students will reinforce and expand their knowledge of other areas of study through the world language.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:	Educational experiences in **Grades 5-8** will assure that students:	Educational experiences in **Grades 9-12** will assure that students:
• use simple information from their world language class in their study of other subjects; • use the simple information learned in other subjects in their study of a world language; and • use new information and perspectives gained through world language study to expand their personal knowledge.	• acquire more complex information from a variety of sources in the world language classroom and integrate it with other school subjects, comparing and evaluating the similarities and differences in information; • acquire information from a variety of other subjects and integrate it into the world language classroom, comparing and evaluating the similarities and differences in information; and • use new information and perspectives gained though world language study to expand their personal knowledge.	• acquire even more complex and abstract information from a variety of authentic sources in the world language classroom and integrate it with other school subjects; • analyze the similarities and differences among the sources, selecting the most appropriate information for specific purposes; • use information acquired from other school subjects to complete activities in the world language classroom; and • use new information and perspectives gained through world language study to expand their personal knowledge.

CONTENT STANDARD 6: Connections

In at least one language other than English, students will acquire and use information from a variety of sources only available in the world language, using technology, print, audiovisual, media, data and human resources.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:	Educational experiences in **Grades 5-8** will assure that students:	Educational experiences in **Grades 9-12** will assure that students:
• use multimedia sources to access information regarding the target culture(s); and • demonstrate the ability to access information about the target language and culture(s) from various sources, with assistance if necessary.	• use multimedia sources to expand their understanding of the target culture(s) and integrate it with their existing knowledge base; and • develop the necessary skills to use the Internet/World Wide Web in order to gain greater access to the target culture(s).	• use multimedia sources to analyze aspects of the target culture(s) and apply their knowledge to new situations; and • analyze materials, looking for sources of information for potential use in original work on the target language or culture(s).

CONTENT STANDARD 7: Comparisons Among Languages

In at least one language other than English, students will demonstrate an understanding of the nature of language through comparisons of that world language and their own.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:	Educational experiences in **Grades 5-8** will assure that students:	Educational experiences in **Grades 9-12** will assure that students:
• give examples of words borrowed from one language and used in another and develop an understanding of the process of borrowing; and • demonstrate an awareness of the target language's phonetic and writing systems and how they differ from the phonetic and writing systems in the English language.	• understand how idiomatic expressions affect communication and reflect culture.	• analyze various elements of the target language (such as time or tense), and compare and contrast them with comparable linguistic elements in English; and • evaluate the style of a communicative interaction in the target language.

CONTENT STANDARD 8: Comparisons Among Cultures

In at least one language other than English, students will demonstrate an understanding of the concept of culture through comparisons of the cultures studied and their own.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- demonstrate knowledge of the patterns of behavior of the target culture(s) that are related to recreation and celebrations, comparing and contrasting them with behaviors in their own culture(s);
- identify and describe some cultural beliefs and perspectives relating to family, school, work and play in both the target culture and their own culture(s);
- identify, compare and contrast different forms of communication in the target culture and in their own culture(s), including signs, symbols, advertisements, packages, displays, murals, songs and rhymes;
- use new information and perspectives to recognize the similarities and differences among other cultures and their own culture(s); and

(continued)

Educational experiences in **Grades 5-8** will assure that students:

- compare and contrast art forms, such as music and songs from the target culture, with those in their own culture(s);
- investigate and report on cultural traditions and celebrations, such as holidays, birthdays, "coming of age" celebrations, seasonal festivals, religious ceremonies and recreational gatherings, that exist in both the target culture and their own culture(s);
- solicit their peers' opinions on an aspect of United States culture through face-to-face contact or written exchanges and compare this information with how their peers in the target culture view the same topic;
- use new information and perspectives to compare and contrast their experiences with those of their peers in the target culture; and

(continued)

Educational experiences in **Grades 9-12** will assure that students:

- discuss different forms of communication in the target culture, such as signs, symbols, advertisements, displays, songs and rhymes, as they are reflected in United States culture;
- compare and contrast the treatment of current issues in both the target culture and their own culture(s) by drawing on authentic texts;
- analyze how other cultures view the role of the United States in the world arena;
- evaluate the effectiveness of a communicative interaction, based on cultural elements;
- use new information and perspectives to compare and contrast their experiences with those of their peers in the target culture; and

(continued)

CONTENT STANDARD 8: Comparisons Among Cultures

K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades K-4** will assure that students:

- use new information and perspectives to compare and contrast their experiences with those of their peers in the target culture.

Educational experiences in **Grades 5-8** will assure that students:

- use new information and perspectives to analyze the differences among other cultures and their own culture(s) and begin to explain the reasons for such differences.

Educational experiences in **Grades 9-12** will assure that students:

- use new information and perspectives to demonstrate understanding of the similarities and differences among other cultures and their own culture(s).

CONTENT STANDARD 9: Communities

In at least one language other than English, students will use the world language both within and beyond the school setting for personal enjoyment, enrichment and active participation.

K-12 PERFORMANCE STANDARDS

Educational experiences in **Grades K-4** will assure that students:

- exchange information about family, school events and celebrations with native speakers via letters, e-mail and audio- or videotapes;
- identify different types of employment in which target language skills are an asset; and
- review materials and/or media from the target language and culture for enjoyment.

Educational experiences in **Grades 5-8** will assure that students:

- discuss their families, school experiences, free-time activities and current events in the target language in written or oral form with other students;
- demonstrate self-knowledge as well as understanding of others in areas of common interest through the target language;
- interact with members of the local community who are employed in a variety of professions to learn how they use the target language in their work;
- demonstrate their target language skills while involved in community activities;
- review materials and/or media from the target language and culture for enjoyment;

(continued)

Educational experiences in **Grades 9-12** will assure that students:

- communicate with members of the target culture and interpret information regarding topics of personal, community or world interest;
- use their target language skills and demonstrate cultural understanding while participating in career exploration, volunteer experiences, school-to-work projects or school/individual exchanges with homestay;
- use various media from the target language and culture for personal enjoyment;
- establish and/or maintain interpersonal relations with speakers of the target language via e-mail and/or exchange programs; and
- read literature, listen to music and view films in the target language for entertainment.

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K-12 PERFORMANCE STANDARDS, continued

Educational experiences in **Grades 5-8** will assure that students:

- consult various sources in the target language to obtain information on topics of personal interest; and
- use various media from the target language and culture for entertainment.

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